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OF MEDICINE
JUL - 3 1943

The Mississippi Doctor

VOL. 21 BOONEVILLE, MISSISSIPPI, JUNE, 1943 NO. 1

Breathes there the man with soul so dead
Who never to himself hath said,
    This is my own, my native land!
Whose heart hath ne'er within him burn'd
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—Sir Walter Scott

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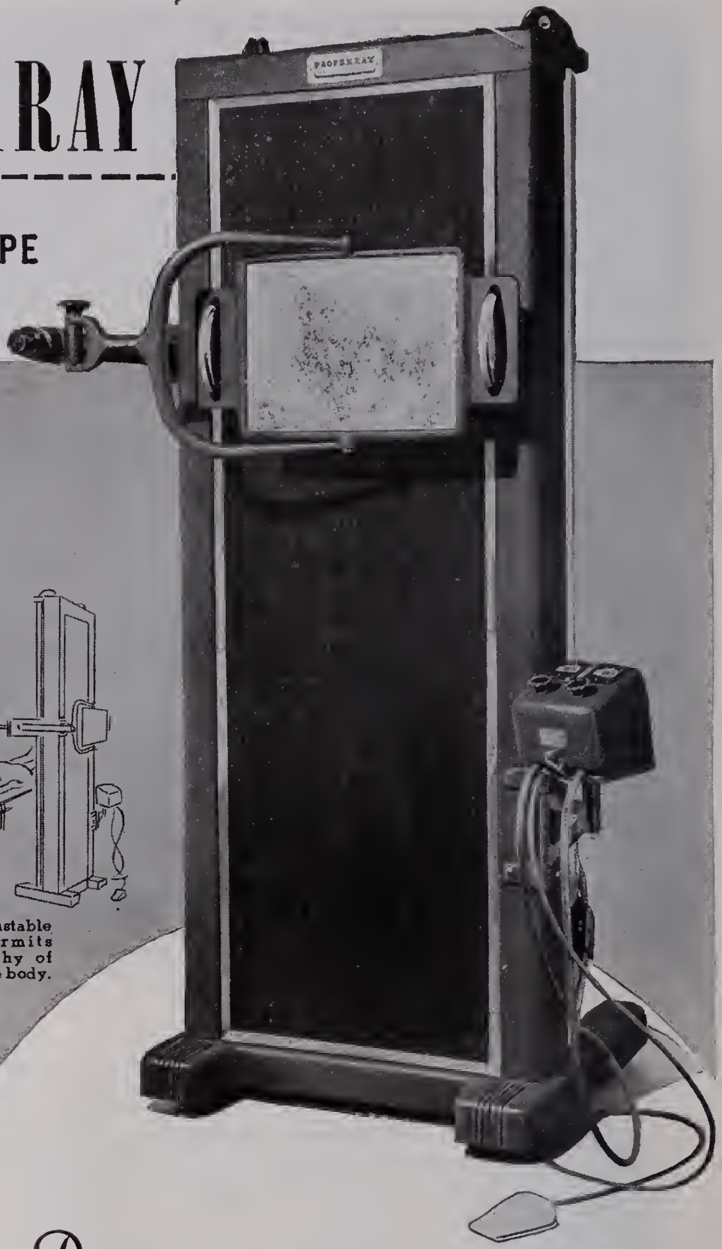

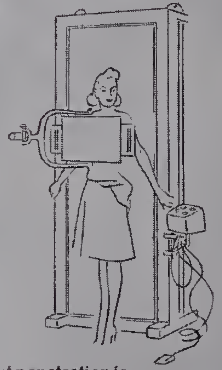

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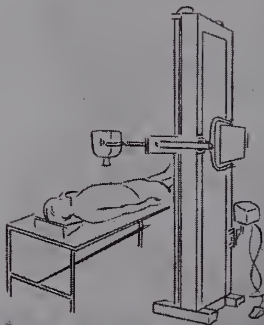

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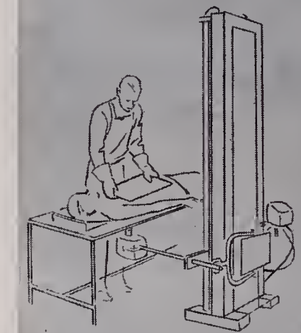

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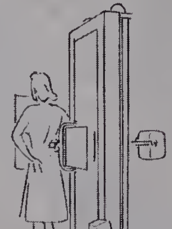

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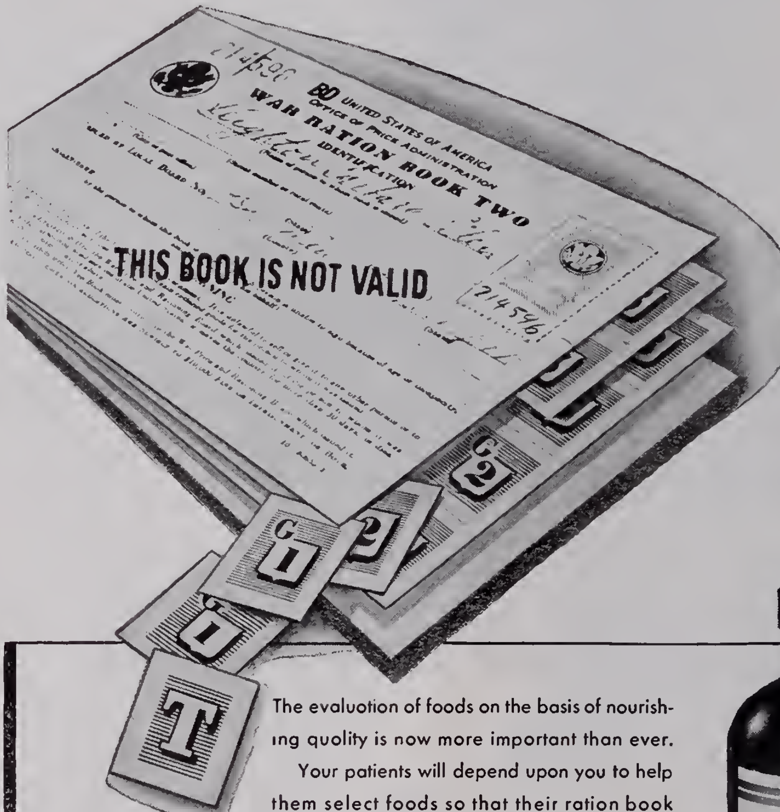
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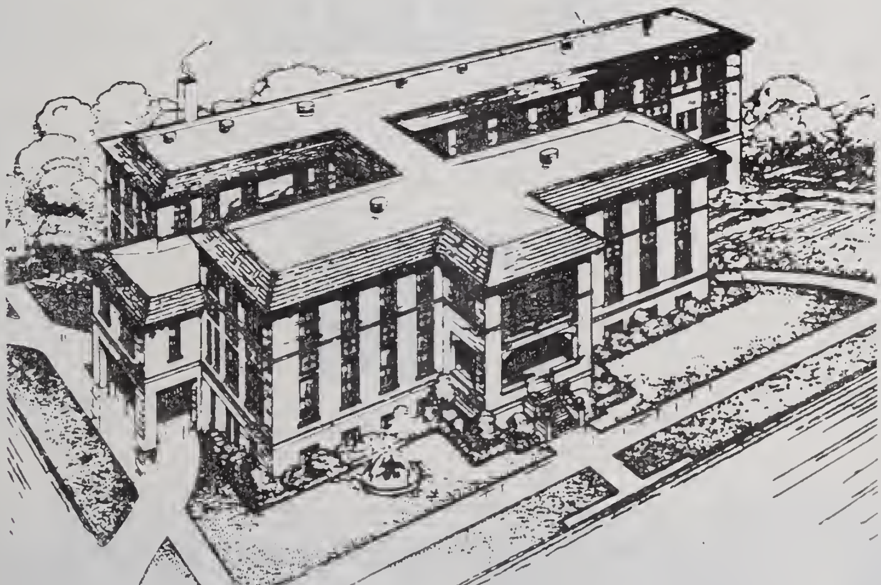

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Hypo for an Embryo

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Control of Conception as a Public Health Responsibility*

C. C. PIERCE, M.D.
NEW YORK, N. Y.

As THE SHADOW of World War II lengthens and grows darker over the country, many disquieting facts are being driven home to all of us. The medical profession has grave responsibilities toward many of the situations we are now facing.

A generation has grown up since World War I, and millions of the young men of this generation are being called by selective service. We are fighting a global war today, which bids fair to be long and bloody. It will need more than twice the manpower used in World War I. It calls for longer and more intensive training, greater technological skill, and stronger and tougher men than those who fought in 1917 and 1918. Because we are already getting dangerously close to the bottom of our reservoir of manpower, women by millions are going to be needed to supplement the work of men. They will be needed to release men for tasks which women can not do, but which are vitally essential in the winning of the war.

This situation makes serious demands on the country's medical resources. These are not only spread dangerously thin in some areas, but have been stretched to the breaking point in others. We have—so far—been fortunate in escaping, in this war, an epidemic such as the influenza scourge of 1917, but it is evident that our medical and public health resources have other important calls upon them. These resources must be applied where they will do the most good. Every weapon in our arsenal for the cure and prevention of physical disability or disease must be evaluated, enlisted, and applied where it will be most effective. We cannot overlook any possible means of keeping the nation healthy.

In World War I we had to build up our armed forces hastily. At that time it came to us as a shock that between thirty and fifty per cent (it varied with the locality) of the young men examined had serious physical defects which made them unfit for service in the armed forces. We were forced, although that was a short war, to lower physical requirements and take in men who did not measure up to the health standards first demanded for those entering service.

We were not proud to find so many of our young men unfit to defend their country—a country which held a high record in the world's eye for unequalled material resources, networks of public health services, and for thousands of hospitals and well trained physicians.

We hoped and believed that such a situation would not arise again, but we are now engaged in another war, and it has. The past twenty years have multiplied our health services, centers, and welfare agencies, and increased the numbers of our hospitals and doctors. Again our young men are being called to fight for their country. How do they measure up with the generation which fought in 1917? How does their health, in general, compare with those inducted for service in World War I? Is it better or worse?

It should be much better. The years of insistence on preventive medicine and the addition of services which did not exist in the infancy of those who fought in 1917, should have resulted in a much stronger group of young men in 1941, but what do we find? Again from thirty to fifty per cent of those examined today for selective service are unfit for full military service.

We cannot blame these figures on any one factor. Poor environment, the effects of the depression, and a lack of adequate public health protection are all contributing causes. I venture to suggest that the lack of adequate child spacing services in every part of the nation has contributed its share also to the current prevalence of physical defects and imperfect health among our young men.

For many years leading physicians here, in England, and in other countries have urged conception control—or pregnancy spacing—as a health measure for the protection of mothers and children. They have pointed out that you cannot expect healthy children when the parents are physically and mentally unable to give them a good start in life and proper care. It is known that high rates of infant and maternal mortality are the sequence of high birth rates, particularly when children are born at too close intervals. Plain statistics show that the greatest flood of death and ill health stem from those homes where subsistence is already insufficient and where additional children to be fed, clothed, and sheltered make for impossible family situations.

---

*Read before the Mississippi State Medical Association, Jackson, Miss., May 11, 1943.

Countries such as India, China, Japan, and Egypt, with their high birth rates and poverty among the masses of their people, are examples today of an appallingly high infant and maternal mortality, a morbidity and incidence of endemic diseases we would consider inexcusable here.

In some sections of the United States, however, we have a comparable situation, even if to a less degree. The Southeast and Southwest are our great sources of population, but their birth rates are high and so are their infant mortality rates. Some of the best of their surplus population is leaving to find better opportunity elsewhere. As a consequence, their net contribution to national health is far less than quantitative population figures might indicate.

We have had in 1941 and 1942 the biggest baby crop in our history. But five per cent of these babies were dead inside of a year, and sixty per cent of those who died in 1941 died in less than one month after birth. Everyone of these babies should have been an asset to the nation. Unfortunately, too many of those who have survived will be a liability instead.

Public health has a big stake in all this. It is the job of public health agencies and of organized medicine not only to heal the sick, but to keep as many people as possible well and healthy. Because child spacing is a fundamental phase of preventive medicine, because sufficient time between pregnancies is basic to the health and welfare of mothers and their babies —the inclusion of pregnancy spacing in public health services is a logical adjunct to those programs already being directed at the reduction of maternal and infant mortality. It adds to the potentialities for building a stronger, healthier nation.

The establishment of a program of pregnancy spacing in a public health service does not mean an additional load. It is not something new with which to burden overcrowded hospitals and doctors and nurses who are already working to the limit of their capacity. Properly integrated, a program of pregnancy spacing would reduce the load, and result in a lower rate of maternal and infant mortality. More children would survive the pre-school and adolescent years because their mothers would have had a chance to recover strength between pregnancies.

You may ask here what medical and scientific support there is for such a program as part of public health and preventive medicine. These are the facts:

The house of delegates of the American Medical Association adopted unanimously the report of its committee to study contraceptive practices and allied problems. This report, made in 1937 at the annual meeting, followed years of agitation within the association. It came after numbers of state and county medical societies and special organizations allied with the association had passed resolutions recognizing contraception as a medical problem and urging organized medicine to accept its responsibility in directing it.

In 1937 recommendations of the A. M. A. were:

1. That their legal rights in regard to advising contraception for patients be made clear to physicians.
2. That the A.M.A. undertake investigation of materials, devices, and methods recommended or used for the control of conception.
3. That the council on Medical Education and Hospitals promote instruction in medical schools on the various aspects of fertility and sterility.
4. That information and advice on the prevention of conception should be given at hospitals, dispensaries, and clinics, operated under medical direction and supervision.

The committee on contraceptive practices had reported to the A.M.A., in 1936, that it recognized:

> "That voluntary limitation of conception may be necessary to safeguard the health of some women. Pregnancy is medically undesirable and may be actually dangerous for the woman who has active tuberculosis, acute or chronic nephritis, some types of heart disease, some psychopathic conditions including recurrent puerperal insanity, arteriosclerosis, chorea, some types of anemia (especially pernicious anemia), malignant disease (including the hematopoietic), polyneuritis, recent serious illness or pelvic infection, phlebitis, pyelitis, traumatic rupture of the

> symphysis or pelvis which has not healed, and possibly a few other conditions in women who may not be physically capable."

This is a long list of indications, but many doctors have had patients with one or more of these conditions who have undertaken pregnancy with disastrous results. Included in the list could be women with pelvic deformities or abnormalities which often result in difficult delivery, stillborn children, or maternal death.

In 1937 the report of the committee on contraceptive practices prefaced its recommendations with a statement that "information concerning contraception is admittedly available to persons in favorable economic circumstances. There appears to be no law to prevent physicians who work in dispensaries from furnishing patients there with any information that may lawfully be furnished to patients in any other economic group. In all cases the legal justification is based on the medical need of the patient."

The report stated further that:

> "It is recognized that family limitation is dependent largely on the judgment and wishes of individual parents. The intelligent voluntary spacing of pregnancies may be desirable for the health and general well-being of mothers and children. This raises the question of how many pregnancies are biologically desirable and physically safe and the best practical means for determining the proper interval between them.
>
> "No arbitrary interval can be stated. A variety of factors must be considered including the patient's general health, the character of the previous pregnancies and labors and of recovery from their effects, and the incidence of recurrent illness.
>
> "In its first report your committee stated that it had been unable to find evidence that existing laws, federal or state, had interfered with any medical advice which a physician felt called on to furnish his patients.
>
> "This view has been supported by the recent decision of the U. S. Circuit Court of Appeals, Second Circuit, December 7, 1936, in which it was held that a statute, the words of which forbade absolutely the importation of articles for the prevention of conception, was not designed to prevent the importation of things which might intelligently be employed by conscientious and competent physicians to save life or to promote the well being of patients.
>
> "Although the statutes in force in the several states that forbid the dissemination of information concerning methods, do not in terms exempt physicians from this operation, it seems fair, nevertheless, to assume that the state courts, if called on to construe them, will adopt lines of reasoning similar to those followed in the case cited and in other cases decided by United States courts, leaving physicians free to give information concerning contraception when required to meet the medical needs of patients."

Many of you may have read these recommendations when they appeared in the *Journal of the American Medical Association* in 1937. They are repeated here because we are all members of the A.M.A., and action taken by the house of delegates recognizing that the control of conception is a health problem is important to all doctors of this great body of organized medicine. It is equally important for us to know that restrictive statutes on contraception do not apply to physicians in any part of the country except in two states—Connecticut and Massachusetts.

The A.M.A. has acted affirmatively, as far as contraception is concerned, and has outlined the indications which make pregnancy undesirable and child spacing desirable. It is for us as individuals and for the medical societies to which we belong to translate opinion into action.

Such action has already occurred in many places. Following the leadership of the A.M.A., state medical societies passed resolutions encouraging and approving contraception as a part of a public health program. The Arizona, Alabama, and South Carolina state societies adopted resolutions in 1938, Georgia in 1939, Texas in 1940 and 1941, Florida, Tennessee, Colorado, Virginia, and West Virginia in 1942.

The wording of the resolutions varies, but the gist of them is the same. They all recognize pregnancy spacing as an essential to health and some of them emphasize the high infant and maternal mortality which goes hand-in-hand with unplanned and poorly spaced pregnancies.

Some states have already instituted programs under their state health departments. North Carolina headed the list in 1937. South Carolina began one in 1939 and Alabama in 1940. Three more states have begun work and it is expected that action in others will be taken shortly. In no instance has a state health department program of this type met opposition or criticism. The report on North Carolina states that in the four years the program has been in operation a two-fold effort has been made: "to try to restrict excessive births where the maternal and infant risks are both great, according to medical and sociological indications; and to promote an increased birth rate among the people physically and mentally qualified to have larger families."

Another report said that while there had been little adverse criticism of the program, "commendation has been overwhelming. It has been literally amazing to find out that simple honesty and openness in dealing with a vital medical and public health program should stir up interest all over the world as being something unusual."

From South Carolina, Dr. Siebels, chairman of the committee on maternal welfare of the State Medical Society, reported that, "pregnancy spacing is as important, as necessary, and as feasible as any other public health measure and is a rational supplement to a well-rounded public health program."

The 1940 report from South Carolina stressed the fact that puerperal deaths probably represented no more than ten per cent of the disasters connected with pregnancy. The report states: "For each fatality there are probably no less than ten who bear the scars of complicated childbirths and who remain potential losses in another pregnancy. Throughout the questionnaires for the five-year period the same percentage—that is, one fourth of all the fatalities — occurred among those who were chronically unfit for pregnancy."

The late Dr. J. N. Baker reported for Alabama in 1941 that in view of the state's high infant and maternal mortality rates, the state health department felt that women should be helped to avoid pregnancy until they had time to prepare for it and could undertake it safely. Though Alabama had barely made a beginning of the work in 1941, according to Dr. Baker, the health department felt "that in the promotion and development of this particular type of program we are pushing still deeper scientific medical knowledge into a hitherto little explored sector of public health, which bids fair to benefit large groups sorely in need of such knowledge."

State departments of health were not the only agencies that recognized pregnancy spacing as a part of public health. In a service letter dated October 17, 1941, the U. S. Public Health Service stated this policy on child spacing:

"Should a state department of health decide on its own initiative to undertake a child spacing program in accordance with the health laws of the state, the Public Health Service would give the proposal the same consideration that would be given to any other proposal in connection with the health program of a state."

Still more recently the division of industrial hygiene of the U. S. Public Health Service prepared an outline of an industrial hygiene program, published as Supplement No. 177 to the Public Health Reports, 1943. Under the section on "Personal Problems," the outline suggested appointing as counsellor some "responsible, common-sense individual with a sincere, warm interest in people and their problems" to work out with employees, among other problems, the many questions of emotional difficulties which arise."

The outline has this to say of child spacing:

> "The counsellor should refer married women workers with special problems to the medical service or a private physician for advice on the proper spacing of children, as a means of protecting the health of the mother and her children."

We see, therefore, that state health departments, the public health service and organized medicine all recognize that a problem exists which should be met and solved, so far as is possible, under medical direction.

One unfortunate result of the lack of an adequate child spacing program—abortion—is already causing trouble in plants where large numbers of married women are employed. The dangers of abortion have been repeatedly emphasized, but many women, nevertheless, still seek this release from unwanted pregnancy out of the need or desire to keep wartime jobs. Induced abortion is a murderous traffic. Flourishing abortion mills in many war areas indicate that abortion is on the rise rather than on the decline. They will continue to thrive so long as women are not advised on effective methods of contraception.

If women have to work (and we are told that eighteen millions will be working by the end of 1943) they should be given the opportunity, under medical direction, to postpone pregnancy until they desire more children and are able to look after them. 13,650 women are now working in seventy-nine Mississippi factories.

It has been repeatedly proved in recent years that adequate maternal care not only decreases maternal and fetal mortality but also the morbidity. The ideal program of maternal care has six phases—premarital examination, preconceptional examination, prenatal medical supervision, delivery care, postnatal care and child spacing. The protection, which every American mother has a right to expect, will be weakened by the omission of any one of these phases. Certainly child spacing has an important contribution to make in any field, but especially in the field of industrial hygiene, during the war period.

You may ask, "Does the public in general approve a program of child spacing?" The answer is yes—overwhelmingly so. Thousands of individuals and organizations have endorsed the principles of planned parenthood; scientists, educators, social workers, and the majority of the great religious bodies are in favor of it. The polls of public opinion taken in recent years approve it. It is not only a question of public health, but one of personal liberty. Parents want children, but they want the right to decide when and under what conditions they shall be born.

Today, more than ever before, many parents feel the deep responsibility they owe their children; they want to give them a chance in life; if they do not feel this responsibility, they do not make the best parents. If they don't want more children, they should know where to find medical advice to avoid conception—for the unwanted child too often becomes the maladjusted child, the problem child—possibly the criminal.

Now, how does all this affect Mississippi?

For ten years, Mississippi has had one of the highest birth rates of any state in the Union and the rate remained high all through the depression. In 1941, when the U. S. birth rate was 18.9 per 1,000 population—the highest it had reached for some years—Mississippi's rate was 24.9.

With its high birth rates Mississippi has maintained high stillbirth and infant and maternal mortality rates. All of these rates are markedly above those of the whole country. The stillbirth rate was 45.1 in 1941, as against 29.9 for the United States. That year the infant mortality rate was 54.7 and the maternal mortality rate 5.7, as opposed to 45.3 and 3.2 for the country as a whole. These figures are from the U. S. Bureau of the Census, Vital Statistics, Special Reports.

While only 8.1 per cent of births in the United States in 1941 were delivered by midwives, 47.9 per cent were delivered by midwives in Mississippi, and infant and maternal mortality rates are always higher in areas where midwives alone officiate at delivery.

In the United States and in the majority of the states septicemia causes the greatest number of maternal deaths, but in Mississippi, in common with some of its bordering states, toxemia, including eclampsia and albuminuria, heads the list.

Mississippi's problems are complicated by its abnormally high proportion of negro population and the fact that its per capita income is the lowest of any state in the union. The average income for U. S. $573; Nevada is highest with $960, and Mississippi lowest with $195. There were more negroes than whites in Mississippi until 1940, at which time whites represented 50.7 per cent of the population, negroes 49.2 per cent, and all other races 0.1 per cent. Health services naturally face almost insuperable difficulties in such as situation.

The public health problem of the negro, measured by all health standards, shows him to be in a most unfavorable position. The negro death rate is fifty per cent higher than that of the whites, and it is thirty-four per cent higher than the national average. The negro sickness rate is forty-three per cent greater; his average length of life is twelve years less than it is for whites. Negro mothers die at twice the white rate; negro babies die at two and one-half times the white baby rate. Therefore, negroes welcome the program of planned parenthood, or child spacing, when it is made available to them.

There is no doubt that the adoption in Mississippi of a state wide program of pregnancy spacing along the lines of those already operating in other Southern states would eventually result in the lowering of stillbirth, infant and maternal mortality rates. With a reduced but more qualitative birth rate more babies would survive to maturity.

To take care of such maternal health problems as you face here in Mississippi, doctors should not only support but train themselves to be able to prescribe approved methods of contraception. It does little good to advise a cardiac, tuberculous, or chronic nephritic patient not to become pregnant unless she is told by the doctor the best and most effective method in her case to use to prevent that pregnancy.

The teaching of the techniques for the control of conception is being developed in most medical colleges. A syllabus to facilitate this teaching has been prepared and sent to the deans and professors of obstetrics, gynecology and public health in the grade A schools. This teaching will prepare the doctors of the future for the demand that will be made upon them in this branch of medical science. Doctors who were not taught this subject are showing marked interest in preparing themselves to give child spacing advice by asking for a manual on the subject. Two hundred and ninety-one doctors in Mississippi have asked for and received the manual showing they are interested in this phase of preventive medicine.

If doctors will not, or cannot, advise patients adequately, women are going to continue to use materials bought at the drug stores —often dangerous and usually ineffective. Still more women will resort to abortion.

Finally, let us not expect too much from a program of pregnancy spacing in any health department or expect it too soon. We know what causes syphilis and how it can be cured. But the greatest difficulty lies in persuading those infected to take the regular and continuous treatment which will cure them. It is so with contraception. We shall always have the careless, the stupid, the inert who will fail to use the methods advised. But because therapy does not prove to be 100 per cent efficient in a given field, doctors do not shrug their shoulders and say there is no use in advising it.

As Dr. Alan F. Guttmacher of Johns Hopkins said recently, pointing out the objectives of conception control: "The aims and obligations of planned parenthood are simple and clear cut. We must stimulate the birth rate in that segment of the population which produces healthy offspring, but yet fails to recognize this obligation. We must offer safe means of avoiding pregnancy to the woman who is ill, to the newly delivered mother, and to the hapless couple who breed the eugenically undesirable. And, finally, we must throw our might into helping the sterile become fertile."

Doctors are laboring today under a heavier burden of responsibility than ever before. Their ranks have been lessened by the large number of physicians who have gone with the armed forces. As a result the work of the doctor in civilian life today has doubled and even tripled. Despite the added responsibilities of winning the war, it is up to the doctors to keep the faith of the public.

The people of the United States look to their doctors to meet the problems of public health under any conditions. They expect the medical profession to cope with any health problems which arise. To the medical profession they entrust particularly, the health of the generation born in wartime—for it is this generation which will bear the difficulties of maintaining our future peace.

DISCUSSION

DR. FELIX J. UNDERWOOD (Jackson) — I have known about this program in a number of other states. I have discussed it with whose who had to do with it, and it seems that the program has been successful in the states that I know about. Of course, child spacing is nothing new to us as physicians. We have practiced it ourselves. I have two children—I might as well have had six or eight or twelve, but I thought two was about all that Mrs. Underwood and I could take care of, so we practiced child spacing. That is nothing new as far as we are concerned, but there are those who are half dead with nephritis, diabetes, this, that and the other thing. Where economic conditions make it essential that they have this advice and assistance, I think it makes sound sense, and I think that where it is under medical control, as it must be if it is done in Mississippi—I mean that the physicians would have to go into the clinic and do the work for us—I see no way for it to go wrong, because in a clinic our local physicians would be depended upon to carry out the work and we would hope that they would do much of this type of work in their offices where in their judgment they felt that it is indicated.

It came pretty close home a few days ago. There was a woman in this town who had been married, I think, seven or eight or ten years. She had three children, the youngest just a baby, and she was working—said she had to work. She came to me for advice such as we are discussing now, and I referred her to her physician as I should have done. I have no way of knowing what happened later, but I do know that she became pregnant again, with a baby less than twelve months old, and she was trying to work and had to leave that baby with her mother, as well as two other small children. I do know that she had an operation performed and died. That has been less than two weeks ago. I think prevention there would have been much better than operation, so in a sensible, sane way, I believe this program could be carried out by the public health and medical profession of this state in a manner that would be a credit to the profession and to the health program.

Dr. Dan Williams (Gulfport)—The greatest trouble with this program has been the ignorance of the doctors and nurses. I have discussed this with a few of my friends off and on for sometime. Just after the action of the A. M. A., which also endorsed a series of lectures to be given by an individual designated by the Association who went over the United States in various parts of this country delivering lectures, he got in touch with me and I invited him to Mississippi. I didn't have much time, but I got an audience of doctors and the representative leading women of our community together and we listened to that lecturer with a great deal of interest.

There was a great diversity of opinion among the doctors as to just what should be done. I was very much amused—one of the leaders in this Association immediately took the rostrum and he told those of us who had something to do with that program that we were merely dancing on the trap door of hell and were just ready to fall into the pit. He was very enthusiastic about it, but there were some others of us who were enthusiastic too, and I wish this Association could have further time to teach here some of the methods that a few know that could be endorsed for the proper spacing.

That has been one of the great troubles in carrying out this program. The doctors are ignorant, the nurses are ignorant, and I dare say without successful contradiction that many of the faculties of our leading schools are ignorant. They don't know what they have been trying to do, and until this subject is brought before the public in an intelligent way and stripped bare and discussed with candor, we are not going to get very far with it. We have got to go slow. You well know that it has been only a short while ago that one could not go before an audience of this kind and talk about syphilis and gonorrhea, and we are regarding very much in this same light this subject. We need more discussion.

Dr. Pierce (closing discussion)—I haven't anything to add to the remarks made by Dr. Williams and Dr. Underwood. Dr. Williams put his finger on the weak spot in the whole thing—the ignorance on the part of physicians and nurses. There are many methods of child spacing but the method must be selected by the man who handles the case. Our object is to keep it in the hands of the medical profession. We do not want it to get into the hands of quacks or irregular practitioners, but under the direction of a regularly constituted medical profession and the health department to take it under their control and see that it is given properly.

To bear up under loss, the fight, the bitterness of defeat and the weakness of grief, to be a victor over anger, to smile when tears are close, to resist disease and evil men and base instincts, to hate and to love, to go one when it would seem good to die, to look up with unquenchable faith in something ever more about to be—that is what any man can do, and be great. —Zane Grey.

The Application of the Open Treatment to All Potentially Infected Abdominal Wounds and Results*

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In 1924, because of the occurrence of a number of cases of virulent infections of the soft tissues of the abdominal wall and the high mortality incident thereto, we made an intensive study of this subject. From this was evolved what is known as the open treatment of the potentially infected abdominal wound.

The underlying principles are not new. Heyd from Frederick's Clinic in 1911 reported that he found anaerobic organisms in 100 out of 102 cases studied and isolated seventeen varieties and stated that they were present in greater profusion than aerobes in all stages of appendicitis and peritonitis and considered that they were the entire cause of gangrene and peritonitis. Altemier in 1938 presented a summary of the studies made since 1889 by thirty-one groups of men over a period of fifty-two years in which there was a unanimity of opinion as to the universal presence of anaerobes in these infectious processes. Our own cultural findings have only served to confirm these findings.

In the treatment of general peritonitis and the infected peritoneal cavity the prominent part played by these organisms has never been accorded the importance which it deserves. The growth and development of anaerobes are dependent upon certain definite conditions of heat, moisture, exclusion of air, and the presence of dead or dying organic tissue. Another fact not recognized is that practically all complications and deaths are not due to the peritonitis *per se* but to infection of the soft tissues of the abdominal wound.

Our study convinced us that the solution of the whole problem rested upon the fact that we were dealing with anaerobic infections. We were convinced that due consideration should be given the nature of the infection and its biological history and appropriate and logical measures should be employed to prevent its spread and further development in the wound. Attention must be paid to the physiological needs of the organism, such as the maintenance of the water level of the blood, the furnishing of the necessary electrolytes and the prevention of toxemia from intestinal paresis; then the mortality rate could be lowered to a level commensurate with the uncomplicated case.

The open wound treatment of the potentially infected wound is based upon sound surgical principles. These are as follows: (1) that in ninety-eight per cent of the cases of peritonitis anaerobic organisms are present; (2) that these organisms are dependent upon heat, moisture, the exclusion of air, and the presence of devitalized tissue for their growth and the elaboration of their toxins; (3) that with the removal of the offending agent — appendix, gangrenous gallbladder, free blood in the peritoneal cavity, etc., the continued source of nutrient media is eliminated and the peritoneum is then able to overcome the infection within its confines; (4) that infections of the tissues of the abdominal wall play a far more important role in the causation of fatal sequelae than any other one factor; (5) that in the closed abdominal wound one has a most excellent incubator, with a culture media of traumatized tissue under the most favorable conditions of heat and moisture and with the exclusion of air, for the development of anaerobes; (6) that air is a specific against this type of infection; (7) that anaerobic infections thrive under conditions in which tissues are under strain; (8) that all wounds potentially infected with this type of organism should be left open; (9) that it is contrary to all surgical principles to close a wound which has been definitely contaminated. Nowhere else in the body would one consider tightly closing a wound freshly bathed in pus.

Most of our writings and teachings upon this subject have laid stress upon the open treatment of wounds associated with peritonitis due to the ruptured appendix. This has been necessary in order to stress most forcibly the benefits obtained in reducing the death rate in this condition. However, the open treatment of the potentially infected wound is just as applicable to all other wounds of a similar character. We employ it in all such cases, i. e., gangrenous gallbladder or acute cholecystitis, perforated ulcers of several hours' duration, intestinal obstruction, gunshot wounds of the abdomen, and badly contaminated compound fractures, particularly where the tissues have to be closed under tension.

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*Read before the seventy-sixth annual session of the Mississippi State Medical Association, Section on Surgery, May 1943.

We have seen seven cases of emphysematous gangrene of the abdominal wall secondary to an acute cholecystitis, four of which died. Since treating all of these wounds as potentially infected and leaving them open we have not had a single case so treated and no deaths from any cause.

The mortality rate in intestinal obstruction once was unbelievably high. We have seen nine cases of spreading gangrene of the abdominal wall associated with intestinal obstruction. No case has ever developed when the open wound treatment was employed, and we have become so convinced of its efficacy that in no such case is the wound ever closed. It is a well known fact that in intestinal obstruction the contents of the bowel are teeming with anaerobic bacteria, and regardless of how meticulous one's technique is, it is almost impossible to prevent contamination of the operative wound. As a result of the employment of this procedure in conjunction with other measures—such as Wangensteen's decompression, the maintenance of the water level of the blood, the normal electrolytes and the administration of oxygen continuously—the mortality rate from this formidable condition has been so reduced as to rob it of all of its former dread. This has been accomplished largely by the employment of the open wound treatment.

The death rate in gunshot wounds of the abdomen has throughout the country ranged above fifty per cent. One of the most important factors contributing to this mortality has been the contamination of the wound with bacterial flora of the intestines. By leaving the wound open it has lowered our cases to a twenty-five per cent rate of mortality, and since we began the parenteral employment of sulfanilamide in connection with the open treatment of these wounds, the death rate has almost reached the vanishing point.

Most of you are familiar with the lowering of the death rate which has been accomplished in the treatment of the complications incident to the ruptured appendix. For nineteen years we have employed this method in the treatment of these complications (local and general peritonitis, gangrene and abscess formation) and the mortality rate in these cases has remained consistently around one and one-half per cent. After the introduction of the sulfa drugs we, along with others, dumped the powder in the wound. We could not see that we gained anything by it and on the contrary it appeared to predispose to the formation of dense adhesions and the wounds all developed a marked oozing of blood. So we discontinued its employment. It is our view that the sulfa drugs have a definite place in the treatment of all such infections but that their efficacy is dependent upon the degree of blood concentration and not upon any local effect. In all potentially infected wounds from whatever cause, we routinely administer intravenously five grams of sulfanilamide dissolved in 500 cc. of normal saline for three days.

The underlying surgical principles are the same in the treatment of the potentially infected wound whatever the cause, whether from a gunshot wound, a perforated ulcer, a gangrenous gallbladder, an intestinal obstruction, or a ruptured appendix.

Whenever practicable the offending agent is removed, drains inserted as indicated, and the peritoneum closed down to them. Mattress sutures of twenty-five guage wire are then introduced through the skin, fascia, and muscle, but not tied, to prevent disruption. Next silk or silkworm gut sutures are introduced, the wound packed with antiseptic gauze and sutures tied over the packing. The mattress wire sutures are then tied over short iron or wood rods. These are preferred to buttons which were formerly employed because of the more even distribution of the pressure. This pack serves several useful purposes: (1) it stabilizes the abdominal wall immediately postoperatively when there is most danger from straining; (2) it has a definite germicidal effect upon any infection present; (3) it promotes a retrograde flow of lymph; and (4) it stimulates the formation of an inflammatory barrier around the wound.

The patient is now returned to his bed and placed upon his abdomen to favor immediate drainage which is important, as any benefit is to accrue from the use of drains. Five grams of sulfanilamide are given intravenously and followed by the continuous intravenous administration of either five per cent or ten per cent solution of glucose, dependent upon how well it is utilized by the patient. Blood transfusions are given when and as indicated. As a means of maintaining the water level of the blood, of lessening its viscosity, and of compensating for loss of body fluids during the operation, all patients taking general anesthesia are given five per cent solution of glucose subcutaneously throughout the operative procedure.

Postoperative treatment includes decompression measures by the Wangensteen method, deep breathing exercises and the administration of carbon dioxide and oxygen at two-hour intervals to promote the more rapid flow of venous blood. On the day of the operation "bedcycle" exercises are instituted. These last three measures are intended not only for the maintenance of the strength of the patient but more particularly as an endeavor to prevent postoperative phlebitis and pulmonary embolism.

Twenty-four to forty-eight hours following operation the pack is removed from the wound and the wound is left open, without dressing, under a heat tent. The treatment is continued until the wound is healed, usually from three to five weeks.

This early, continuous open treatment of the abdominal wound is the key to success in the prevention of spreading infections and the toxemias incident thereto, and in our hands has had a most decisive effect upon lowering the mortality in all types of wound infections.

The question has often been asked as to the frequency of hernia following wounds treated in this manner. Theoretically there should be an increased incidence of hernia, but as a practical fact it is rarely seen. During the past twenty years, to our knowledge, there have been six hernias in approximately 700 cases treated in this way. There is a good reason for this low rate of postoperative hernia—mainly due to the fact that there is no sloughing or loss of tissue and the abdominal wound is ultimately as strong as before operation. Another factor possibly has been that in the peritonitis cases secondary to appendicitis we have favored the McBurney incision. However, in the various pathologic conditions in which this incision is not applicable, hernias have been noted by the infrequency of their occurrence.

Another objection has been the length of hospitalization. A criticism with reference to this is not well founded. In the first place the mortality rate is so much lower that there is no basis upon which one can estimate the relative period of hospitalization in patients treated in this manner and those in which the wound is closed. Again, for instance, if a patient has a ruptured appendix and he is told that his chances for recovery by leaving the wound open is 98½ out of 100 and by closing the wound it is reduced to three out of four, he will leave you in no doubt as to his preference, and very quickly.

During the past twenty years there have been many advances made in the treatment of the various pathological entities under consideration—the maintenance of the water level of the blood, the decompression of Wangensteen, blood transfusion and the sulfonamides. The latter we employ routinely in five-gram intravenous doses daily in all cases, and we believe it has proved to be of real therapeutic value. However, none of these either equal or transcend in value the leaving of the wound open in the lowering of the mortality rate.

I wish again to emphasize the fact that practically all of these wounds are infected with anaerobic organisms, that the closed wound is a good incubator and provides the best culture media under the most favorable conditions of heat and moisture with the exclusion of oxygen for the propagation of these germs, and that any wound so infected is a source of profound toxemia and frequently the cause of spreading gangrenous processes. The high mortality of these cases is due more, both directly and indirectly, to infections in the soft tissues of the abdominal wall than to any other factor and the practice of leaving the potentially infected abdominal wound open to air over a period of practically twenty years has so reduced the hazards associated with the treatment of these formidable conditions as to eliminate the dread with which we formerly approached their treatment.

DISCUSSION

DR. A. E. GORDON (Jackson)—I have been following Dr. Gamble for twenty years or more, and think he is a very safe man to follow. Open treatment of abdominal wounds in infectious cases is to my mind the correct procedure. Where we use sulfanilamide or sulfa drugs, I feel that to leave the wound open is absolutely of no avail. It does no good. It has been my idea with infected wounds to follow Dr. Gamble's principle of leaving the wound wide open, and it is true that drainage tubes should be placed in it the first twenty-four hours. Many cases have been saved in this way, but in intestinal obstruction I have to disagree a little with Dr. Gamble. I think that drainage has been our chief agency in intestinal obstruction and it has been my principle to close these cases of intestinal obstruction. The last twenty-five years have shown marked advance from the time that Harvey Stone wrote his paper on toxemias from intestinal obstruction. I do not know that our results have been like Dr. Gamble's. We obtained good results although we closed our wounds. We rarely lose a case from intestinal obstruction.

Dr. Gamble digressed from his paper a little about fractures and compound fractures. It has been my principle since the advent of the sulfa drugs to close all compound fractures and other fractures. The sulfa drug in all these cases have failed in every instance to get results. However, we have had many superficial wounds in which we have used sulfa drugs and we have obtained better results. An infection drains around the sulfa drugs, and it is my opinion that, after using these drugs for a long time, the effect is not local, but general, the absorption of the drugs being better by putting them directly into the tissues than by using them orally or intravenously. To leave the wound open and sprinkle it with sulfa drugs, they have no effect. The sulfa drugs will, in the future, be somewhat more standardized than they are now. As when a nurse says, "Doctor, do you mind if I dust a little sulfanilamide on this wound?", we know it is dusted on clean wounds and on granulated ones, and the sulfa drugs are greatly overdone. For instance, sulfathiazole is good for staphylococcus infections, but is not effectual in strep infections, and further standardization will make this use more practicable.

I want to thank Dr. Gamble for asking me to discuss this paper and I want to say to all who don't know Dr. Gamble that he is a very safe and sane man to follow. Thank you.

DR. H. R. SHANDS (Jackson)—Since being an intern with Dr. Gamble at the Charity Hospital in New Orleans—just 40 years ago—I have found him to be a very safe man to follow. I have not had an opportunity to catch him in an extravagance of statistics, but still when I hear him say that he has had a mortality of 1½% in cases of ruptured appendix and when he says he has had only six cases of posterior hernia in abdominal wounds. I am reminded of the adage which was repeated to me by my father many times when I was a boy. An old Dr. Carlisle, who was a professor at the school in North Carolina which my father attended, used to say that the truth will seldom be found lacking in a chain of superlatives. I suppose he is telling the truth, but he is certainly getting wonderful results. There is something about his treatment that gets a 1½% mortality in ruptured appendix that no one else has ever reported. I have heard him read several papers on the subject for the last few years and we have followed his procedure, but it is quite surprising how free of complications these cases are when the wound is left open. Now, as I understand, when he says he leaves the wound open, he does not leave the peritoneal cavity open; he sews it up. We put in Davis buttons and put them through the fascia and use no catgut suture at all. I think that it would be inconceivable to leave the wound entirely open. As I understand the treatment, it is not to control the intraperitoneal infection but to control the wound fection. Now since we began to use the sulfa drugs I have changed my procedure somewhat. We leave the drain in the peritoneal cavity and we leave the wound open. I can not see any material difference since we treat the case with sulfanilamide and leave the wound with free drainage. And we have been agreeably surprised to find that wounds left open to heal all do so without a hernia.

In regard to his bicycle treatment, I think that is an anormous help. I had an attack of coronary thrombosis in 1936 and Dr. Gamble was kind enough to send me one of those bicycles, which I used with good results. I gave that one to the Baptist Hospital and we now have twelve or fifteen of them, one on each floor, and we insist on them being used. So far as not having phlebitis, one will find in the collective papers of the Mayo Clinic that in 2200 cases of hernia phlebitis in the leg occurred in one case in fifty. I am sure that we do not have an average of phlebitis in more than one in 200 cases. It certainly is a procedure that is well worth carrying out and it certainly does help in keeping down phlebitis, and non-use of the legs must be one of the contributory causes.

DR. JOHN E. DARRINGTON (Yazoo City)—I have seen surgery develop from the days when everything was not aseptic. Strange to say, however, in the long surgical experience that I have had, few have been my cases with very badly infected abdominal wounds. I give them drainage but I do not leave them wide open. We are ready to try something new, like sulfa drugs, and we are all waiting with open minds for every new thing that develops. I think these drugs are wonderful, but I do not think that we can pour a sulfa drug in the infected wound, close it up, and depend on the drug sterilizing that wound. I can not quite conceive of it being that good. However, I do believe we will have less infection with an open drainage if we have a drug in there that is doing some work for us. I wonder if Dr. Gamble has nothing to protect the abdominal contents except the peritoneum, which is sometimes hard to close. I wonder how many of these cases have violent vomiting and if the intestines are ever pushed out of the wound and, later, when he closes his suture if he has a well-protected wound. Anyhow, I am glad to hear of a method that is better than we have been using, and I compliment him on his fine results. It was a pleasure to hear his paper.

Dr. Lawrence W. Long (Jackson) — Sulfanilamide may have been the drug that gave us fortitude to do some of the things we knew should be done but never had the nerve to do. I believe all of us will agree that the peritoneal cavity can not be drained, and in using the sulfanilamide in the cavity and closing that up, the patient gets blue because the cavity cannot be drained. We have learned from using sulfanilamide that the chief advantage comes in giving sulfanilamide to the patient immediately, and it can be given intravenously if so desired. It has further given us fortitude to close the peritoneal cavity, and thus allow the peritoneum, which has a very strong resistance, to fight.

I agree with Dr. Gamble in his open treatment of the wound itself. How much good the sulfanilamide does in the cavity itself I hesitate to say, but it does give the patient the sulfanilamide at a time when it can not be given by mouth.

Dr. Gamble (closing discussion)—Any discussion of appendicitis and any discussion of sulfa drugs always elicits much interest, and I don't think there is any question that we are thoroughly agreed upon certain factors, and one is that the sulfa drugs are plainly for certain types of infections. With reference to Dr. Gordon's, Dr. Shands' and Dr. Long's remarks, personally I feel that the effort of the sulfa drugs depends upon the blood concentration of them. I tried using them in the wound in the peritoneal cavity and, as I stated in my paper, I feel that I did get more hernias and more dense adhesions when I used them, and I could not see that there was any particular benefit derived from using them that way, so I adopted the plan of giving 70 grains intravenously in all of these infected cases. I think the sulfa drugs have a very material effect in the reduction of the mortality and in the treatment of the patient. They represent one of the greatest advances that has been made in practical surgery in the last ten years; however, I do not feel that they have entirely solved the problem of these infections.

Dr. Long said the peritoneal cavity can not be drained. I beg to differ. It can be drained for the first few hours after the operation; it can not be drained 24 hours later because those drains have been walled up and if the patient is placed in a recumbent position, an enormous amount of fluid will come out of that peritoneal cavity. The peritoneum is capable of resisting almost any form of infection, and, he might have added, remove the infecting agency and you give the peritoneal cavity an opportunity to overcome the infections. The point that has escaped every one, and I have brought it out in every paper I ever wrote, is that the infection in the peritoneal cavity is what kills these patients. They die from infections in the soft tissues of the abdominal walls. I reported a few years ago before the Southern Surgical Association fourteen cases of spreading gangrene of the abdominal wall due to these infections. The infections in the abdominal wall, or maybe the toxemias, kill or maybe a pneumonia, but they all come from the same source, and usually spread between the skin and the external big muscle, but I have found them spread between the peritoneum and the muscles. There is where danger lies in these cases.

Now as to the mortality rate of appendicitis: Looking back, I think we had 142 cases in one series and 140 in another. The 142 had general diffuse peritonitis with marked pathology in the colon, and the mortality rate was 1½%. In those cases of gangrene in which we closed the wound, we had six deaths. In one series we had the very worst cases we could pick, and in the other we had advanced pathological processes, but the mortality was so much lower in the series in which the wound was left open, can not help but feel that the closing of that wound had more to do with the mortality than any other factor.

During the past 12 years we have had 4 deaths from appendicitis: one a man 82 years old who had a massive fibroid (autopsy); a man in his seventies who had an advanced case of diabetes; a woman of 65 how died from a spreading infection in the abdominal wall following a ruptured appendix, lived 14 days, had a tube put in her bowel and when that tube was brought out she developed spreading infection of the wall; and a man in his early fifties who had general peritonitis following operation for ruptured appendix, five days without complications and on the fifth day developed a cerebral apoplexy. I defy anyone to say that cerebral apoplexy should be charged up to the appendix unless one takes the viewpoint that he had a complete paralysis of one side.

I operated on a woman last week for appendicitis. She was 82 years old, and said, "I am too old to have appendicitis," but she had an appendix as long as my thumb, perforated and gangrenous. She has not had a temperature above 99 since I operated on her. Those things are due not to the peritoneum. I suture the peritoneum all the way down and I leave the soft tissues open — there is the danger point. It is in the soft tissues of the abdominal wall that danger lies in the treatment of these infections.

I think Dr. Gordon and I see alike as to the potential infections. The paper was on the potentially infected wound, and compound fracture is a potentially infected wound. I close those wounds without tension, but if there is going to be a sloughing of soft tissues, it is much better to leave that wound open. I have a negro now who was thrown out of a wagon who had a compound fracture of three fragments; in those cases I do not hesitate to make an open reduction. I have never yet had one that would not get well.

Hippocrates, Father of Modern Medicine, first emancipated medicine from superstition. In 490 B. C. he also wrote the Hippocratic Oath, ethical guide of physicians for 2,500 years: "Whatever in my practice I shall see or hear amid the lives of men I will not divulge."

Results in the Treatment of Neuropsychiatric Patients with Electric Shock on the White Chronic Service of the Mississippi State Hospital*

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ELECTROSHOCK therapy was begun at the Miississippi State Hospital after a conference with the progressive and earnest superintendent, following his attendance on demonstrations held under the auspices of the Psychiatric Institute at the South Carolina State Hospital, Columbia, S. C., in April, 1941.

It is not the present purpose to discuss theoretical considerations concerning the modus operandi of electric shock, utility or operation of various shock machines, selection of patients, technique employed in the actual administration of the shock, immediate effects of the shock, after care, possibilities of adjunct treatments or a comparison with other forms of shock treatments, but to give a comprehensive idea of what we are doing along this line by reporting on a series of unselected cases treated by this method from September 11, 1941, to December 31, 1942. Owing to the limited personnel, follow-up data were not obtained; and, although the patient who prepared the appended data did a splendid job, the summaries of the 284 unselected patients do not include all the cases.

Please remember that a large proportion of the patients herein reported are mental defectives and also are our problem cases such as the deteriorated, untidy, destructive, assaultive and suicidal ones which, because of their urgent nature, require much of our time and effort. A large percentage of these patients have been in the institution for years and have been treated not with the hope of producing a cure or even a remission but with the idea of raising the average level of their mental conditions so as to make them contented, make life more pleasant for the others with whom they came in contact, reduce the danger to human life, cut the cost of medical supplies, laundry, repairs of clothing and other property and the expense of other methods of treatment, not the least of which is physiotherapy. All this has been accomplished. To give just one example, since the allotted time is so short, we have greatly reduced the use of the hydrotherapy equipment on the white chronic service except on the infrequent occasions when the electric shock machine is away for conditioning, at which time our attention is sharply called to this fact.

Well over 5,000 shocks were given to the 284 patients, 127 being the largest number to one patient and 1 the smallest. High points of the appended tabulations are: 70 per cent improved, 29 per cent granted leave, 4 per cent remained on leave less than 1 month, 7 per cent 1 to 3 months, 11 per cent 3 to 6 months, and 7 per cent over 6 months. **The best results were obtained in the involutional cases with 100 per cent granted leave, none of which returned, and the poorest in the cases of mental deficiency with 14 per cent. Seventy-six per cent improved of those in the institution six months or less, 79 per cent 6 months to two years and 47 per cent over two years. In cases where the psychosis was not known to have existed longer than six months 67 per cent were improved, six months to two years 75 per cent improved and over two years 56 per cent improved. The following percentages of improvement occurred in the various age groups: 16 to 25 years, 65 per cent; 26 to 35 years, 53 per cent; 36 to 45 years, 61 per cent; 46 to 55 years, 67 per cent; and 56 to 65 years, 50 per cent.

Only one fracture, as described later, occurred. Two other patients showed a tendency to jaw dislocations which were all readily reduced with no ill effect. There were no other dislocations. No patient died of electric shock. Pulmonary tuberculosis was discovered in four of the cases after treatment had been started. One of these, Miss A. W., a case of dementia praecox, who had been in the institution 15 years, expired following reactivation of old pulmonary tuberculosis. Another of these, Miss A B., a case of psychosis with mental deficiency, who had been in the institution nearly 5 years, expired after contracting other intercurrent illness having no relation to electric shocks. The other two, Mr. J. E. N. and Miss S. L. G., are ambulatory cases of 15 and 4½ years' residence in the institution, respectively, the former being a case of mental deficiency and the latter a case of dementia praecox who are at present residing in the white tuberculosis hospital of the institution.

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*Read before the seventy-sixth annual session of the Mississippi State Medical Association. Section on Public Health, May, 1943.

Physical improvement in many of the cases was shown by increased appetites, gains in weight and energy, and improved physical appearance.

The following cases of white women and men, representing a variety of mental states and diagnoses, are cited briefly, due to the fifteen-minute time limit, only the outstanding features being mentioned. Unless otherwise stated, the physical, neurological, and laboratory finding routine urinalysis, a feces for ova, blood Wassermann test and other tests or examinations, were essentially negative, the history of mental disease in the antecedents was either negative or unknown, and the patient did not return to the institution as a patient after the specified date of going on leave.

Mr. J. M.; age 40, single, farmer, diagnosis "Psychosis with Mental Deficiency," admitted 9-28-41, dull, delusional and seemingly able to keep his clothing soiled with feces most of the time. No improvement whatever occurred until electric shocks were begun four months after admission. He became neat, clean, an excellent garden laborer, lost all delusions and appeared normal, went on leave 4-19-42.

Mr. E. K.; age 27, single, farmer, diagnosis "Manic Depressive Psychosis, Manic Type," admitted 10-3-42, highly excited, talkative and uncoöperative, having recently joined the church and wanted to preach. By the thirty-sixth day in the institution he was also delusional, hallucinated, confused, violent, dehydrated, and hoarse from yelling. He had actively refused to eat or drink and it appeared that he would probably die of manic exhaustion. The physiological levels were reëstablished by means of parenteral fluids, tube feedings and vitamin therapy, after which electric shocks were begun with the result that he began to eat and drink and otherwise to clear up after the second shock, finally to go on leave 1-10-43.

Mrs. M. C. H.; age 63, widow, housekeeper for son, three years college, diagnosis "Psychosis Due to Cerebral Arteriosclerosis" (Manic Reactions), admitted 3-28-40, talkative, restless, meddlesome, fearful, unable to sleep, convinced she was losing her reason, very obstinate; some cardiac hypertrophy, B. P. 160/90, arcus senilis, left pupil cloudy and right dilated; picked at her nose and gradually tore away a large part of one ala. No improvement whatever occurred until electroshocks were begun twenty-six months after admission, after which improvement gradually occurred until she went on leave 8-24-42 with much yet to be desired but still very much improved.

Mrs. V. T.; age 43, ninth grade, married, housewife, diagnosis "Phychosis Due to Involution Changes"; admitted 11-18-39, two months after onset, sleepless, agitated, self-accusatory, wringing her hands, suicidal, ate poorly, thoroughly miserable; tongue heavily coated, markedly constipated, occasional hyaline casts. Hookworm ova found in August 1941 cleared up. Numerous electric shocks were given before improvement began but she finally was markedly improved and on 9-1-42 went on leave.

Miss M. H.; age 24, tenth grade, employed in garment factory, diagnosis "Dementia Praecox, Catatonic Type"; admitted 6-22-42, sudden onset shortly before admission, bowel and bladder actions delayed as long as ten hours, wished to die; sleepless, indifferent, negativistic, assumed odd postures, resisted being moved about, seclusive, delusional, hallucinated, very perplexed and supplicating in appearance and manner; very greasy skin and achneoid lesions all over body, heavy trace of albumin and one-plus sugar in urine. No improvement whatever until shocks were administered 7--21-42. Went on leave twice and returned twice, each time improved by electric shocks and is now improved in the institution. Skin lesions cleared up after first series of shocks and stayed clear. Urine also cleared up. This patient would not need to be in the institution if she could be returned for occasional electroshocks

Mrs. E. P.; age 24, one year college, housewife, diagnosis "Dementia Praecox, Paranoid Type," admitted 6-29-37, onset three months previous to admission, left home with baby thinking it would be harmed by gangsters, hallucinations of being gassed and electrified somewhat confused and indifferent, not suicidal

Our Apology: *Due to a miscalculation on the part of the printer, this page is extra. Time and insufficient labor prevented the reprinting of the first sixteen pages necessary to correct the error. We regret the break in Dr. Denser's paper, but insert the following to eliminate blank space.*

Take Time To Live

Take time to live;
The world has much to give,
Of faith and hope and love:
Of faith that life is good
That human brotherhood
Shall no illusion prove;
Of hope that future years
Shall bring the best in spite
Of those whose darkened sight
Would stir our doubts and fears;
Of love, that makes of life,
With all its grief, a song;
A friend, of conquered wrong;
A symphony, of strife.
Take time to live,
Nor to vain mammon give
Your fruitful years.

Take time to live;
The world has much to give
Of sweet content; of joy
At duty bravely done;
Of hope, that every sun
Shall bring more fair employ.
Take time to live,
For life has much to give
Despite the cynic's sneer
That all's forever wrong;
There's much that calls for song,
To fate lend not your ear.
Take time to live;
The world has much to give.

—Thomas Curtis Clark

but preferred death; few hyaline casts and trace of albumin in urine in January 1938. No improvement whatever until electric shocks were begun five years after admission. She gradually improved and went on leave 9-18-42. Her sister, at a casual meeting in February 1942, stated that she was keeping house for her father and was apparently as well as ever.

Mrs. M. L.; age 64, sixth grade, but much more intelligent than this implies, music teacher, widow, brother in a sanitarium, previous mental attacks at ages of 14 and 29 and several times subsequently, diagnosis "Manic Depressive Psychosis, Depressed Type," admitted 1-21-42, self-accusatory, feelings of pressure on heart and stomach, wished to die but had not the nerve to kill herself, agitated, walked the floor moaning, wringing her hands and almost screaming for hours day and night, convinced of the hopelessness of her case; slight mitral murmur, B. P. 160/90, bounding pulse, fibrous inactive lesion in right chest reported on x-ray examination. No significant improvement until electric shocks were begun after about eleven months in the institution. She went on leave in a bright, cheerful, composed and confident mental state 3-14-43.

Miss L. S.; age 29, high school, typist, improved by metrazol during three months' stay in this institution in 1938, diagnosis "Dementia Praecox, Hebephrenic Type"; admitted 2-28-41, untidy in dress and personal habits, senseless outbursts of laughter, inaccessible silly manner, hallucinated, delusional, uncoöperative, assaultive and indifferent. Thirty-eight electric shock treatment sessions were employed from 5-15-42 to 12-21-42 with marked improvement. She is now typing for the chronic service, being definitely in a remission.

Mrs. A. R. A.; age 33, two years college, secretary, two previous admissions, premarital pregnancy, gonorrhea and induced abortion, divorcee, no motherly interest in her seven-year-old child, menstruation irregular and painful, periodic user of drugs and alcohol, diagnosis "Psychoneurosis, Anxiety Hysteria Type"; B. P. 100/75. Improved considerably under electroshock therapy, begun 11-14-42, and went on leave 12-13-42, but much more improvement would have been necessary before reaching a normal mental state.

Miss L. I. G.; who has been in the institution from 10-20-22 and Mrs. M. C. S., a resident herein for four years, both of whom stood or sat in one position for hours at a time, and persistent marked edema of the lower extremities which cleared up completely under electric shocks, recurred after they were discontinued, and again cleared up completely and were so maintained by regular electric shocks. The former has had over sventy-five treatments.

Mrs. S. B.; age 58, some cardiac irregularity; apparently ceased to live immediately upon the administration of one electric shock if total cessation of respiration and heart action, complete and entire bodily relaxation and complete pupillary dilation are sufficient indices. Prompt action in the way of treatment of this development was followed by return of the signs of life and interestingly enough the pulse promptly became entirely regular and strong for at least ten minutes.

Mrs. R. S.; in this case a considerable reduction in the size of varicose veins of the legs has been noticed during a long course of electric shocks.

Mrs. L. M. H.; age 53, diagnosis "Psychosis Due to Mental Deficiency, Accentuated by Cerebral Arteriosclerosis"; cardiac hypertrophy, B. P. 170/100, sustained a complete fracture of the shaft of the right humerus during the course of a series of electric shock treatments. No sound of the breaking bond was heard at the time the shock was given and the loss of use of the extremity was not noted or reported until the next day, so that it is not clear just how the fracture occurred. She had been unimproved in the institution about five months before shocks were begun and went on leave mentally much improved about nine weeks after the fracture occurred, having obtained a good anatomical and functional result from treatment of the fracture.

Mr. T. E. C.; age 3, high school, sheet metal worker, married, mother once in the institution, diagnosis "Manic Depressive Psychosis, Manic Type," admitted 12-28-42, continuously restless, destructive, very violent, exceedingly depressed, convinced that everything was futile, hanged himself in the disturbed building but fortunately was seen and cut down soon enough, subsequently cut himself up severely about the elbows and feet, in a violent effort either to break out or deliberately to injure himself, and hemorrhaged considerably; went on leave 4-2-43, apparently completely restored.

Mrs. M. L. E.; age 51, high school, housewife, two previous depressions, diagnosis "Manic Depressive Psychosis, Depressed Type"; admitted 7-11-41, numerous somatic complaints, underwent laparotomy solely to satisfy herself that there were no adhesions, complained of mixed-up mind and weakness, very restless, unstable emotionally, self accusatory, convinced she would not live, very miserable; trace of albumin, few red blood cells and over 100 pus cells in urine. Many treatment methods that came to mind had been employed and a leading psychiatrist had been called in from outside at the request of the husband but to no avail. She was referred to the chronic white service as a last resort, for electric shock therapy. Improvement was so early, so rapid and so marked that the husband with a let-well-enough-alone attitude prevailed upon the superintendent to stop the treatment after the fourth session. The husband finally consented, however, to give in and the complete course was finished. The patient went on leave 11-23-41 in excellent mental condition and when last heard of not long ago had continued so. This was one of the earliest cases treated by electric shock in the institution and the results are most gratifying.

It is believed that electric shock therapy has been effective on the chronic white service of the institution in reducing the period of hospitalization of those patients who have gone on leave and hence the whole group. Statistics are difficult to develop satisfactorily even when the available clerical force is adequate but when a mental patient continues to be unimproved and essentially unchanged for months and then promptly and favorably responds to electric shock treatment, the evidence is entirely too clear to be disputed. This state, I believe, will hold regardless of mental cases on institutional expectant or other treatment.

To summarize, in over 284 unselected chronic mental cases treated with over 5,000 electric shocks we have had one fracture with good end results, two dislocations of no consequence, improvement in 70 per cent of the cases in which 7 per cent of all the cases have been on leave from the institution over six months and an additional 22 per cent for shorter periods,** the expense and time of caring for them have been reduced, the general conduct of the wards has improved and living conditions for the other patients have been bettered. It is to be hoped and striven for that we may realize the establishment of both a workable and working follow-up system of contact with patients on leave and an adequate set-up for providing out-patient electric shock therapy. I am convinced that many patients now occupying beds in the Mississippi State Hospital could be kept on the outside if such a program were in effect.

**These figures were arrived as soon after December 31, 1942, and the percentage of patients on leave will very likely be much higher for the longer period groups as time passes.

MISSISSIPPI STATE HOSPITAL

Report of Electric Shock Therapy for Period from September 11, 1941, to December 31, 1942

By C. H. Denser, M.D.

	TOTAL		MALE		TOTAL	
	No.	%	No.	%	No.	%
Total Number of Patients Treated	284	100	80	100	204	100
Unimproved	82	30	33	41	49	24
Improved	202	70	47	59	159	76
In Hospital	118	41	29	36	89	44
On Leave	84	29	18	23	66	32
Total Number of Patients Improved	202	70	47	59	155	76
On Leave: Less than 1 month	12		1		11	
1 to 3 months	19		2		17	
3 to 6 months	33		7		26	
Over 6 months	20		8		12	
Total Number of Patients on Leave	84		18		66	
Clinical Groups on Leave:						
Dementia Praecox—Untyped	2	12			2	15
Hebephrenic Type	4	16			4	28
Catatonic Type	19	28	7	38	12	25
Paranoid Type	11	27	1	10	10	34
Total Dementia Praecox Group	36	24	8	18	28	27
Manic Depressive Psychosis—Manic Type	15	40	2	37	13	41
Depressed Type	7	47			7	54
Mixed Type	5	44	1		4	50
Total Manic Depressive Group	27	42	3	27	24	46
Psychosis Due to Involutional Changes	6	100			6	100
Mental Deficiency	6	15	4	25	2	8
Other	9	39	3	33	6	43
Total of All Groups on Leave	84	29	18	23	66	32

	MALE							FEMALE						
	Total	Unimproved		Improved				Total	Unimproved					
				In Hospital		On Leave					In Hospital		On Leave	
	No.	No.	%	No.	%	No.	%	No.	No.	%	No.	%	No.	%
PERIOD OF RESIDENCE:														
1. In Institution 6 months or less	17	4	24	4	24	9	52	60	5	8	12	20	43	72
2. In Institution 6 months to 2 yrs.	14	3	21	6	43	5	36	34	7	21	16	47	11	*32*
3. In Institution over 2 years	49	26	53	19	39	4	8	110	37	34	61	56	12	*10*
Total	80	33	41	29	36	18	23	204	49	24	89	44	66	32
DURATION OF PSYCHOSIS:														
4. Psychosis not known to have existed longer than 6 months	9	3	33	3	33	3	33	32	4	13	6	19	22	68
5. Psychosis known to have existed 6 months to 2 years	8	2	25	4	50	2	25	20	3	15	6	30	11	55
6. Psychosis known to have existed over 2 years	63	28	44	22	35	13	21	152	42	28	77	50	33	22
Total	80	33	41	29	36	18	23	204	49	24	89	44	66	32
AGE GROUPS:														
16 to 25 years	14	5	35	4	30	5	35	25	10	40	8	32	7	28
26 to 35 years	32	15	47	11	34	6	19	55	14	25	20	37	21	38
36 to 45 years	23	9	39	7	30	7	30	77	11	14	42	55	24	31
46 to 55 years	9	3	33	6	67			31	5	16	14	45	12	39
56 to 65 years	2	1	50	1	50			16	9	56	5	31	2	*13*
Total	80	33	41	29	36	18	23	204	49	24	89	44	66	32

WHITE FEMALE

CLINICAL GROUP:	Total	Unimproved		Improved					On Leave		
				In Hospital		On Leave			1 to 3 mos.	3 to 6 mos.	Over 6 mos.
	No.	No.	%	No.	%	No.	%				
Dementia Praecox: Untyped	13	1	8	10	77	2	15			1	1
Hebephrenic Type	14	5	36	5	36	4	28	2		1	1
Catatonic Type	48	12	25	24	50	12	25	1		8	3
Paranoid Type	31	12	40	9	26	10	34	1	4	4	1
Total Dementia Praecox Group	106	30	28	48	45	28	27	4	4	14	6
Manic Depressive Psychosis: Manic Type	32	3	9	16	50	13	41	2	7	2	2
Depressed Type	13	3	23	3	23	7	54	1	3	3	
Mixed Type	8			4	50	4	50	1	2		1
Total Manic Depressive Group	53	6	11	23	43	24	46	4	12	5	3
Psychosis Due to Involutional Changes	6					6	100	1		3	2
Mental Deficiency	25	10	40	13	52	2	8			2	
Other	14	3	21	5	36	6	43	2	1	2	1
Total of All Groups	204	49	24	89	44	66	32	11	17	26	12

WHITE MALE

	Total	Unimproved		Improved				On Leave			
				In Hospital		On Leave		Less than 1 mo.	1 to 3 mos.	3 to 6 mos.	Over 6 mos.
	No.	No.	%	No.	%	No.	%				
Dementia Praecox: Untyped	4	1	25	3	75						
Hebephrenic Type	11	6	55	5	45						
Catatonic Type	19	8	42	4	20	7	38			4	3
Paranoid Type	10	2	20	7	70	1	10			1	
Total Dementia Praecox Group	44	17	39	19	43	8	18			5	3
Manic Depressive Psychosis: Manic Type	8	2	25	3	38	3	37	1			2
Depressed Type	2			2	100						
Mixed Type	1			1	100						
Total Manic Depressive Group	11	2	18	6	55	3	27	1			2
Mental Deficiency	16	10	62	2	13	4	25		1		3
Other	9	4	44	2	23	3	33		1	2	
Total of All Groups	80	33	41	29	36	18	23	1	2	7	8

ADDENDUM

As an addendum, attention is called to the following quotations in part from the April 1943 issue of the *Bulletin of the New York Academy of Medicine*, on pages 240, 242 and 251, respectively, the first two from an article by Nolan D. C. Lewis, Professor of Psychiatry College of Physicians and Surgeons, Columbia University, and the last one from an article by Herman Selinski, Major, Medical Corps, U. S. Army Air Forces:

"Insulin, metrazol, and electroshock with the adjuncts that have been recommended by some workers are all valuable in proper hands and particularly when they are supplemented by systematic psychotherapy and other measures available in psychiatric clinics."

"The shock therapies are safe clinically if handled by individuals properly trained in their administration and in the handling of psychiatric patients."

"Finally, it may be stated that whatever doubt may exist about the dynamics of improvement, there can be no doubt of the empirical fact that electroshock therapy is an important contribution to the art and science of mental healing."

DISCUSSION

DR. O. A. SCHMID (Whitfield)—It is indeed a privilege to discuss this excellent paper. The paper is unique in that Dr. Denser has made it interesting and understood by those not doing psychiatric work. Furthermore, his paper is not one of shock therapy in any one class of psychiatric diseases. In fact, he is showing here what therapeutic benefits can be obtained from the standpoint of mixed classes of patients of all ages, including the feeble-minded. He shows that they can be socialized to an extent that they are a decreased problem to the institution and the home.

While many of these patients do not have complete therapeutic effects they have been a great saving in the expense of hospitalization, and the home and the state in that, they become less destructive, more tidy, and achieve an improved physical status. On the whole, shock treatment in these cases has been beneficial in every direction.

I believe the author, as far as I can determine, is giving as many shock treatments, and has had as wide an experience in this therapeutic agent as most quoted authorities in this country. He deserves great credit.

The outstanding case I would like to call your attention to, and which illustrates my point, is a woman age 63, with cerebral arteriosclerosis and with manic reaction. Here one would hesitate to give shock, because of the danger of cerebral hemorrhage, but after a thorough study of this case, Dr. Denser takes the justifiable therapeutic chances and improves this woman sufficiently that she no longer mutilates herself. At the same time he improved a condition we formerly thought was incurable, and for which there was nothing that could have been done. Here the treatment has allowed this woman to improve sufficiently to send her home and become socialized and well enough to remain at home.

We are particularly interested in our involutional cases. In the days gone by, these cases were considered more or less hopeless. Today they rapidly improve under shock therapy. Their hospital days are greatly shortened and a great majority of the cases remain well. To my knowledge the author of this paper has been outstanding in his work at Whitfield in that he has decreased the cost of patient care; in that the patient's hospital days have been greatly shortened in many cases, and in those cases that remain at the hospital, the patient has adjusted himself better and is happier in his hospital life. Others have become neater in appearance and have shown increased self care. He has further saved furniture, beds, mattresses, linens, etc.

In many cases of the feeble-minded and the deteriorated patients, as already stated they have become tidy and are able to do some type of work. We then must consider the decrease in the mental anguish of both the relatives and the patient. Patients who have spent many months and even years in the institution, although they are not entirely well, are sufficiently improved to go home for varying periods of time. This also, you may well see, decreases the cost of the care of the patient.

I want to emphasize one portion of this paper where Dr. Denser states that the deteriorated become sociable, the untidy become tidy, the destructive patients become coöperative, and the suicidal become hopeful. This in itself is well worth the effort and cost.

Let me call your attention to the tabulation in this paper: 70 per cent of the patients were improved, 29 per cent granted leave, 4 per cent remained on leave less than 1 month; 7 per cent, one to three months, and 11 per cent six months; and 100 per cent of the involutional cases were granted leave, none of whom returned. These are figures and tabulations which were treated as impossible 10 years ago.

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The second quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society was held at Houlka on June 8. Houlka is the hub of the universe and the home of the beloved Dr. W. C. Walker. His protegé, Dr. J. M. Hood, lives in Houlka also, and these twain know how to entertain.

The scientific program was mighty good. Drs. J. Harley Harris and Cecil E. Ward of Memphis were the guest essayists. Dr. Harris is a native of the distinguished Houlka. In addition to a good paper, he had nothing but praise for the old home town. Dr. P. W. Rowland, an honorary member, and Dr. Rice of the University were also guests. State Association President Dr. LeRoy Wilkins of Clarskdale attended the meeting. Other appreciated guests were present.

The fried chicken dinner at the school building, an enjoyable feature presided over by Dr. Walker, was highlighted by speeches by Dr. Rowland and Dr. Wilkins. In addition to being an orator of splendid ability and having behind him a fine record of service in organized medicine, Dr. Wilkins has much sincerity of purpose and is very active in good citizenship. He will render a fine service this year as he visits the local societies over the state.

The Postgraduate Department of Tulane under the direction of Dr. H. W. Kostmayer is now giving a concentrated course on different subjects packed into one week. The last course from May 31 to June 6 was on traumatic and emergency surgery. The course was well planned and carefully and promptly covered, both in theory and in practice. Dr. Barney Brooks of Nashville was the visiting lecturer. He is a surgical philosopher and knows people as well as diseases. Teaching methods have changed quite a bit since we graduated twenty-five years ago, but Tulane is still in the front. In these fine refresher courses Tulane is adapting its service to a great need; it is meeting a situation which enables men to keep up with the latest that is being learned in both private and military practice, without a lengthy absence from their practice at home.

Tulane has a connection with the great Charity Hospital in New Orleans. This plant is said to have cost twelve and a half million dollars, and will take care of three thousand patients at full capacity. If the hospital should run at full capacity, its daily population would be five thousand and five hundred people. Few cities in the United States if any have a richer assortment of clinical material than New Orleans. Mississippi is fortunate in being so near to this great school, to the great medical center this cosmopolitan city affords. The extension course sponsored jointly by our State Board of Health, by Tulane and by the Commonwealth Foundation, is the most progressive step that has been made up to date. This plan brings the latest in medicine right to the busy doctor and it also provides a fine experience for the professors, enabling them to go back and make their teaching more practicable.

The Southern Medical Association will hold its regular annual session in Cincinnati next November. We believe the officials with the executive committee of the council made a wise decision in deciding to go right ahead with the annual session. It is not time to freeze medical information nor even to ration it. Cincinnati is not within the boundaries of the Southern Medical, but is not far over the line. Since we did not have hotel accommodations within our borders due to war conditions, it is certainly mighty nice of the fine city of Cincinnati to extend us a welcome. Make your reservation now. This year we have the honor of having Dr. Harvey F. Garrison, Sr., as president and we should make a special effort to attend the meeting.

We are glad to hear from Captain Erne L. Laird, Station Hospital, Camp Gordon, Ga. He has been in the service since January, 1942. He left a splendid thirty-bed hospital with modern equipment at Union, Miss., and since he is not expecting to be back for some time, he will sell this hospital and equipment at a bargain to some one who will go there and operate it. Keep this in mind for him, look for some one who would be glad to use this fine plant and serve while Dr. Laird is in the armed forces. We are glad to hear from Dr. Laird.

Dr. W. C. Walker of Houlka was eighty-four years old on June 14, 1943. On June 8 he presided over the banquet at the medical meeting at his home. He also addressed the Woman's Auxiliary on the same date. The people of his town love him devotedly. He has been true to them in every trust, as a doctor, as a citizen, and as a leader in his church. He has been one of the most faithful members in our local society. Dr. Walker is an orator of outstanding ability, ever able to rise to all occasions in a pleasing and appropriate manner. His wit is quick, his sense of humor keen, his knowledge bountiful, and his wisdom mature. In oratorical flights he soars highest in beauty of language, in power of thought, and in heart-moving expression, when he addresses the ladies, especially members of the Woman's Auxiliary. Laughter and jesting are ever on his lips, but kindness of heart and sincerity of purpose compel his heart throbs. The Doctor Walker spirit will emanate from the little town of Houlka on and on, as the human river of life flows into the ocean of eternity. The doctors of our district society and our state love him and appreciate his useful service to man. The editor of this journal is grateful for his friendship and for the inspiration we have received from him. We congratulate him on the art of living so long and so well. His eyesight is dim, but his mind is alert and his heart yet surges to serve. We wish for him more happy and useful years.

While down in New Orleans recently we dropped in to see the medical spirit of the South's largest, most cosmopolitan and promising city, Dr. Rudolph Matas, surgical dean of the world, and America's most versatile physician. His office is located where it has been for many years, near Touro Infirmary. We found this great surgeon and writer and versatile citizen very busy. Patients were in the office and he was as busy, it would seem, as he was fifty years ago. In his gracious manner and diplomatic way he found a little time for us. With world affairs he displays extraordinary acquaintance. He seems to see clearly down the road of progress for a full century, admitting that the road will not be smooth, but he is optimistic. He is enthusiastic of our future relations with South America.

Dr. Matas spoke with interest and with feeling of Mississippians whom he claims as devoted friends, friends who have been loyal to him and whom he loves and appreciates. He made special inquiry of the welfare of his barbashela, Dr. W. A. Evans.

Just a few minutes in the presence of Dr. Rudolph Matas is an inspiration. Surely the Divine hand fashioned him from choicest material. He achieves and speaks as one whose heart and soul are attuned to the Divine broadcasting station, and whose reflections are free of static. May he live to serve many more years yet.

The *Mississippi Doctor* headquarters was delighted to have a visit from Dr. Hugh Gamble and his son, Dr. Lyon Gamble, recently. They had been to Nashville in the interest of their clinic at Greenville and stopped over to say a word of greeting and encouragement to us, which we very deeply appreciated. Dr. Gamble's old home is not far from Booneville, just west of Guntown, and he was on his way to lunch with his sister in Guntown. Dr. E. M. Holder spent his boyhood days in this home, and when this fine family moved out, the Gambles moved in. These families have made medical history and they continue to go forward. It is good to know them. Dr. Hugh is exceedingly fortunate to have this fine young son to be associated with him and his brother Paul.

Coming by V-mail from First Lieut. David R. Minter of the U. S. Army, this evidence of concern about public health in Mississippi is especially encouraging to those of us who are trying to hold the line on the home front. Lt. Minter served four years as a physician in Mississippi.

". . . I received one issue of the *Mississippi Doctor* just a few weeks ago and was delighted to get the news. I have been particularly concerned about the facilities for care of tuberculous patients in Mississippi. In my four years of practice in Bolivar and Coahoma counties I saw many cases which could not be cared for properly and which merely served as sources for new infections. I wrote Dr. Boswell recently that I hoped something would be done about isolating and treating infectious cases of venereal disease.

"In this period when we need particularly to guard the health of everyone, I think that no means of doing this should be neglected."

We are delighted to have Mr. John Julius Humphrey of Mississippi State College, son of President Humphrey, as a new subscriber to the *Mississippi Doctor*. This fine young man is ready to study medicine and he is interested in becoming a plain general practitioner of medicine and general surgery. He sees the big opportunities in this field, as does his illustrious father.

The twenty-third session of the Southern Pediatric Seminar will meet in Saluda, North Carolina, July 19-31, 1943. For its strong program and excellent faculty we congratulate this group, and commend its courage in carrying on when meetings of this type call for much expenditure of effort because of difficulties of transportation and crowded schedules.

Subscribers are reminded that the index to Volume 20 of the *Mississippi Doctor* is attached at the back of the June issue. Articles, classified according to subject and author, are listed with their page number according to accepted library cataloging methods. The journal is indebted to Miss Louise Williams of the State Board of Health Library for this valuable service each year.

We are very anxious to know more about our doctors in the service. We want to keep up with them and want them to have the journal if they wish it to come to them. We hope every doctor in the service will drop us a line making comments and suggestions, or telling us about himself.

Our civilian-doctor-soldiers continue to fall steadily in the home line of duty as on the battlefield, the civilians going more rapidly; they serve in the interest of democracy and freedom, spurred on by the urge to serve. They deserve their cross of honor.

Heat used to be the prescribed treatment for shock, but now the order is a comfortable temperature with a tendency toward cold.

The Childrens' Bureau of the United States Department of Labor has made a grant to the State Health Department for the care of pregnant wives, and children under one year of age, of the enlisted men who need it. This is done with the idea of relieving the medical profession of this obligation which they would accept on a charity basis otherwise.

This is limited to the seventh, sixth, fifth, and fourth grades of enlisted men in the Army and Navy. Many of these men have been drafted and are on a very decreased salary and are not able to pay for medical care of their dependents.

ELIGIBLE FOR THE PLAN	
7th Class—Private	$50.00
6th Class—Private First Class	54.00
5th Class—Corporal	66.00
4th Class—Sergeant	78.00
NOT ELIGIBLE FOR THE PLAN	
3rd Class—Staff Sergeant	$ 96.00
2nd Class—Technical Sergeant	114.00
1st Class—Master Sergeant	138.00

With the allotment and allowance plan of the government for dependents the allotment is as follows:

Private, $50.00—Government pays $25.00 and private pays $25.00. $50.00 to wife and $25.00 retained for soldier.

Private First Class, $54.00 — Government pays $25.00 and private pays $25.00. $50.00 to wife and $29.00 retained by soldier.

Corporal, $66.00—Government pays $25.00 and private pays $25.00. $50.00 to wife and $41.00 retained by soldier.

Sergeant, $78.00—Government pays $25.00 and Sergeant pays $25.00. $50.00 to wife and $53.00 retained by soldier.

As you will note, this plan offers care to the mother and infant on a recognized standard scale of $35.00 for maternity cases to be paid by the State Health Department on receipt of the correctly filled-in forms. It is an emergency measure for the aid of the drafted man who could not adequately provide for his family with his low salary.

We were delighted to have a letter from Captain R. A. Street, Jr., not long ago from Stinson Field, Texas. He had just completed his course in aviation medicine at Randolph Field. The Street family have been leaders in medicine in Mississippi for many years. Dr. Street was one of the very active men at the Vicksburg Sanitarium before going into the armed forces. He speaks very highly of our pilots in the department. We hope to hear from Doctor Street again soon, and wish him well. We know he will be where duty calls.

It will pay you to file away and read again the paper of Dr. C. C. Bass in the May issue of the journal on the care of the teeth. He is a great research man.

The recent meeting of the State Association was both enjoyable and profitable. While it was short, only a two-day meeting, the programs were full and the papers of high order. Everything done was in decency and in good order. The closing session of the house of delegates was rather peppy, but it was worth the time and expense of the trip to see Henry Boswell perform under a full head of steam. A controversial subject was under consideration, and it seemed for a time that no satisfactory solution might be reached. When the old "war horse" was recognized by the speaker, he admonished him that time was fleeting and that he would be granted but a few minutes since discussion was getting no results. Then it was that things began to happen. With a shake of his mane, his nostrils emitting flame, Henry replied, "It may take me until daylight, but I'm going to have my say—then I shall be through with the whole darn matter." While having his say he was at his best and it goes without saying he swept everything before him. When the vote was taken the speaker announced that the motion had prevailed unanimously. Harmony had been restored and everybody was satisfied. The house then proceeded to the election of officers. For president-elect three names were presented: Dr. Billy Guyton of Oxford, Dr. R. B. Caldwell of Baldwyn and Dr. Lampton Crawford of Tylertown. Dr. Crawford was elected. After other places were filled, about one hour was spent in handshaking and expressions of friendship and love. Thus the annual meeting of 1943 passed into history and those who had attended went away both happy and contented. But before leaving the meeting for other matters of consideration, let me say that of the twenty-four living past-presidents of the Association, *twenty* were in attendance. One of these has removed from this state to another, one was sick and could not come, and valid reasons were given for the absence of the other two. If all the members should feel and manifest the same interest as do these older men, the Association would prosper and the interests of medicine would prosper too. Not only would the interests of the profession be better served but the health of the state would be better cared for. This true because the members who willfully absent themselves are the ones who most need the benefits to be gained by attendance upon these meetings.

Once again death has struck a shining mark. J. B. Howell is dead. He died on on the night of the twenty-fourth of May. It seems that it just can not be true, for he was too young to die, and too useful to have to go. He was indeed one of nature's noblemen. He was alert in thought, upright and fearless in speech and action and friendly in disposition. Of course his place in his home and with his family can never be filled. His friends, who are legion, are deeply grieved and will long miss him. The medical profession in general and the State Association in particular has lost a most faithful and outstanding member. We shall not, soon, see his like again. While we bow our heads in humble sorrow we rejoice in the fact that we have known and loved him. On the day of the funeral I drove to Canton. I did not attend the funeral—I did not view the body. I made this rather hard day's drive for the sole purpose of telling his widow that I loved him and that I might mingle my tears with hers.

—G. S. B.

Deaths

DR. PERCY HUDSON

Dr. Percy Hudson, 61, a prominent practicing physician in Utica for twenty years, died at 1:30 May 26 from a heart attack.

Besides his wife, he leaves two daughters, Mrs. L. F. Horton of Durham, N. C., and Mrs. R. Brannon, Jr., of Lucedale; a son, Dr. R. P. Hudson, who is in the U. S. Army stationed at Stuttgart, Ark.; three sisters, Mrs. Johnson Callender, Brookhaven; Miss Zula Hudson, Brookhaven; Mrs. Turner Blackwell, Lake Charles, La.; and a brother, W. B. Hudson of Brookhaven.

Dr. Hudson was educated at Louisville Medical College, Louisville, Kentucky, graduating in 1906.

DR. F. E. REHFELDT

Dr. Frederick Edward Rehfeldt, prominent Jackson physician, died June 8 in the Jackson Infirmary, with which he had been connected professionally for the past quarter century. He was 63 years old.

He had been ill for about six weeks.

A native of Vaiden, Dr. Rehfeldt was a graduate of the University of Nashville School of Medicine in the class of 1904, and practiced in Vaiden and Moss Point before locating in Jackson. He was on the staff of the Mississippi State Hospital for five years before joining the Infirmary staff. A fellow of the Southeastern Surgical Congress, he was also a member of the American Medical Association, the State Medical Association, and the Central Medical Society. During World War I he served with the Voluntary Medical Service Corps, and was a member of the selective service medical board at the time of his death. He was physician for the Jackson Fire Department for 20 years.

Surviving members of his family include his wife, Mrs. Martha N. Rehfeldt; a daughter, Mrs. Henrietta Minor; a son, Lieut. Fred C. Rehfeldt, a Navy physician on active duty overseas; a brother, William Rehfeldt; and a grandson, Longstreet Minor, III.

News and Comments

MEETING IS SET BY MEDICAL BODY

The Southern Medical Association will hold its annual meeting in Cincinnati, Ohio, November 16, 17 and 18.

The executive committee meeting was held in New Orleans, La., May 27, and was attended by Dr. Lucien A. Le Doux of New Orleans, chairman of the council and of its executive committee; Dr. Oscar B. Hunter, Washington, and Dr. Curtice Rooser, Dallas, Texas, members of the committee; C. P. Loranz of Birmingham, Ala., secretary and general manager of the Southern Medical Association, and Dr. Harvey F. Garrison of Jackson, Miss., president of the association and ex officio member of the committee.

The committee decided that war had not lessened the need for a meeting and the three-day meeting in November will be equally divided between civilian and military medicine.

MOVES OFFICE

Dr. Charles H. Heacock announces the removal of his office from 20 South Dunlap Street to 915 Madison Avenue, Memphis, Tennessee. Practice limited to x-ray diagnosis and x-ray therapy.

MEDICAL GROUP ELECTS

New officers of the South Mississippi Medical Society are Dr. P. E. Smith, Hattiesburg, president; Dr. H. G. Boone, Laurel, first vice-president; Dr. N. O. Tyrone, Prentiss, second vice-president; Dr. J. P. Culpepper, Jr., Hattiesburg, secretary-treasurer, and Dr. H. L. McKinnon, Hattiesburg, local adviser.

ATTEND COURSE AT TULANE

The following Mississippi physicians attended the postgraduate course offered by Tulane University the week of May 31 through June 5 in traumatic and emergency surgery: Dr. W. H. Anderson of Booneville, Dr. Lamar Arrington of Meridian, Dr. Sam Terrell McIlwain of Waynesboro, Dr. M. A. Mroz of Columbia, Dr. E. A. Trudeau of Biloxi. Physicians from seven other states also attended the course.

MALARIA CONTROL

Maj. J. Lynn Robertson, in charge of the Office of Malaria Investigations in Memphis, headquarters for the United States, will probably be moved to Mexico City. Maj. Robertson came to Memphis five years ago from the office in Washington, which was moved to Memphis at about the same time. It is reported that Lt. Col. H. A. Johnson, now assistant, will take over the duties of the office.

Col. L. L. Williams, chief of malaria control for the U. S. Public Health Service, says, "Put on a campaign to screen every house in the South. If every house in a given county is screened, malaria will disappear from the United States." He spoke also of the necessity of drainage.

Col. Williams told about that last great spot on earth where conditions are conductive to malaria infection and for the breeding of malarial mosquitoes, but where there is no malaria. That land is beautiful Hawaii. Rigid safeguards are used to prevent carrying infection there. Ships, airplanes, etc., are sprayed before leaving for that country.

Dr. Felix J. Underwood, our efficient chief health officer and his immediate predecessor, Dr. W. S. Leathers, have been diligent in malaria work in this state for years. Conditions have improved immensely and will continue to get better.

Dr. Underwood and the State Board of Health have conducted the venereal campaign with wisdom and foresight. Much and lasting good have been accomplished in this necessary work.

L .L. M.

We offer our deepest sympathy to Lieut. Commander John Cox, a native of Tippah County, formerly of New York, but now with the Medical Corps in Africa, in the loss of his sister, Mrs. L. H. Holley of Booneville. Dr. Cox has made good in the practice of medicine in New York in a deserving way.

Dr. Herman Kretchmer of Chicago, Illinois, was named president-elect of the American Medical Association at its recent annual meeting of the house of delegates in Chicago. Dr. James Paullin of Atlanta, Georgia, is now president. It is nice to have a Southern man to serve as president of this great organization occasionally. One of the most deserving the South has produced who has not yet been president is Dr. Seale Harris of Birmingham. It is time the medical profession of the South had a bit more recognition in this national organization. There is more medical and democratic leadership in the pure Anglo-Saxon blood in the South than in any other section on the earth at this time. We think our doctors would do well to assert themselves more, rather than to be obliging for a crumb or two of recognition occasionally. The American Medical Association would display considerable wisdom to elect as its chief executive a pure and undefiled practitioner from the country now and then. Medicine might be democratized a bit.

Following the resolution passed at the State Medical Association, the councilor, Lawrence W. Long, has appointed the following counties for the Procurement and Assignment Service in the counties of the Fifth Councilor's District:

Hinds: Dr. H. F. Garrison, Dr. J. P. Wall, Dr. J. W. Barksdale.

Leake: Dr. B. R. Wilson, Dr. K. P. Wood, Dr. B. E. Vowell.

Madison: Dr. I. Edwards, Dr. A. P. Durfey, Dr. J. W. Melvin.

Rankin: Dr. W. H. Watson, Dr. O. A. Schmid, Dr. T. B. Holloman.

Scott: Dr. R. B. Austin, Dr. W. A. Jones, Dr. J. M. Townsend.

Simpson: Dr. Henry Boswell, Dr. A. E. Kennedy, Dr. W. W. Diamond.

Smith: Dr. W. M. Coursey, Dr. R. B. Boykin, Dr. C. A. Kennedy.

Yazoo: Dr. J. B. Anderson, Dr. John Darrington, Dr. W. D. McCalip.

Warren: Dr. W. H. Parsons, Dr. Gus Street, Dr. Edley Jones.

Issaquena: Dr. W. H. Scudder (only doctor in county).

Sharkey: Dr. W. C. Poole, Dr. B. A. Stafford, Dr. H. S. Goodman.

The committees are meeting, electing a chairman and a secretary, and are reviewing the present status of medical care in each county with the view of making a report to Dr. T. M. Dye, the state chairman. This plan is meeting with the whole-hearted approval of both the medical profession and the public.

A TRIBUTE TO A COUNTRY DOCTOR

DR. ERNEST LEE COLLINS

By David E. Guyton

Ernest Collins is dead. He died in his home in Tyro, Sunday, June 13. For two or three years, he had been little more than a shadow of his former stalwart self. One of the most loyal friends of my young manhood and one of the finest fellows I have ever known, I was deeply grieved to learn of his going; but remembering with a pang in my heart how changed and how broken in body he was the last time he came to see me only a few months ago, I feel, that after all it is infinitely better for him to have passed out of the valley into the great beyond.

A native of Union County, Mississippi, a son of the late Alva L. and Frances Graham Collins, Ernest, who came from two of the best families of north Mississippi, grew up on his father's large farm, working hard, attending the neighborhood school and receiving from his infancy that Christian training which characterized the whole of his active and useful life.

Graduating from Mississippi College, he took up teaching, rendering fine service in this field. He taught the Guyton Public School, boarding in my home and being my own roommate and sharing with me the joys and sorrows of youth and building with me a future we neither might ever attain. He later taught at Chalybeate and Houston in company with his brother, Rev. Hubert M. Collins. Students of theirs still speak of them with eager appreciation and remember them with ardent love.

After marrying Miss Birma Stevens, who, with their several children, survives him, he studied medicine, graduating from the Medical College of the University of Tennessee, Memphis.

Locating at Thyatira near Senatobia, he practiced his profession for seven years after which he moved to Tyro where he served as a much-loved and unfailing country doctor for nearly a quarter of a century, answering every call made upon him as long as he was able to discharge his duties. All over that region, he officiated when babies were born, relieved multitudes of sufferers from their poignant agonies, restored thousands to radiant health and happiness and watched with heavy heart and tear-stained face by the bedside of those beyond the reach of medicine and surgery, lifting up his soul in earnest prayer to God to sustain and comfort and save.

Possibly, because of his eagerness to serve, he lost his own health prematurely, continuing, however, to attend his patients even after he himself stood in sore need of professional care. For the last many months of his life, he was a confirmed invalid, a broken and blighted personality, old beyond his years and ripe for loving release.

From his earliest boyhood, Ernest Collins was active in all kinds of religious work. Wherever he lived, he was one of the leaders in Sunday school, young people's work and was one of the stalwarts of the Baptist church. God was real to him. The Bible was the Word of the Lord in the noblest sense of the phrase. He loved and followed Jesus Christ and he loved and served his fellowman.

Monday, June 14, Dr. Collins was buried in Tyro cemetery. His funeral was conducted by his life-long friend, Dr. Walton E. Lee, assisted by his pastor, Rev. A. P. Cliamond. Worthy were the tributes paid this good physician, calm in the peace of death and firm in his faith of the resurrection and sure of the more abundant life.

He is survived by his widow, a daughter, Mrs. T. D. Caphey of Tyro; three sons, A. A. Collins, Tyro; Ernest Lee Collins, Jr., Sardis; and Corporal Stevens Collins, Stockton, Calif.; three brothers, H. Clay Collins and Charles G. Collins, Myrtle; and Rev. Hubert M. Collins, Van Vleet; and four sisters, Mrs. Lola Higginbotham, Mrs. Jno. T. Miller and Mrs. Mabel Spencer, all of Myrtle; and Mrs. Mary Mitchell, Ripley.

I began by saying that Ernest Collins is dead. I don't believe a word of it. I am sure he was never so alive as now. I am certain he is infinitely more himself than he was the last time he sat here in my study, scarcely aware of his surroundings and then more dead than alive. I owe much to Ernest Collins. Hundreds of others owe much to him. Some of these days I hope to meet him, face to face, again and to tell him how much he has meant to me down the years and how much he shall mean to the end. Peace to his noble dust and balm for the hearts that love him.

FOR SALE—At a sacrifice: One large, almost new Cambridge Electrocardiograph costing $1250.00. Will sell for $800.00. Husband in service. Mrs. H. A. Whittington, 405 Franklin St., Natchez, Miss.

Book Review

Just before the last regular session of the association closed an autographed copy of a little book was given me by its author, Mr. Chas. W. Warner of Jackson. The title given this book is *Quacks*. While this little book is dedicated to the family doctor, it should be read by the laity; for it deals with quacks and quackery in a sane and simple way. It shows that quacks feed and fatten on the credulity of the uninformed layman and that they in no way harm or hurt the regular physician. This knowledge should and would enable doctors to educate the public concerning the false claims and crooked practices of vampires who exploit the ills (real and imaginary) of the people. The book is small, can be read at two sittings of one hour each, and it costs but one dollar. It would be fine if every doctor everywhere should read it. It can be had from its author, Mr. Chas. W. Warner, whose address is Jackson, Mississippi, Route 2.

(Reviewed by Dr. G. S. Bryan)

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

"A SUGGESTION FOR THE TREATMENT OF ALLERGIC CONDITIONS"—Julius Suranyi, Annales Paediatrici, 158:231, 1942.

The author says that peroral administration of nicotinic acid or its amide results within one hour, but usually even faster in reddening of the extensive skin areas, accompanied by a subjective sensation of heat, numbness, and itching. It could be shown that this process is associated with transitory fall of the blood pressure and increased hydrochloric acid secretion. The whole reaction resembles, to a certain extent, the effect of parenteral histamine injection. The toxin of allergic reactions has been identified by many authors with a histamine-like substance, and several therapeutic methods have been built on this conception. Histamine or a histamine-like substance has been administered directly or their production has been stimulated indirectly. On the other hand, the histamine destroying capacity of the organism has been increased directly or indirectly.

The knowledge of a certain analogy between the effect of histamine and the reaction to administration of nicotinic acid is of theoretical interest and permits practical application to the treatment of diseases of allergic origin, the more so as nicotinic acid seems to be completely harmless.

The author has applied treatment with nicotinic acid to allergic conditions of children; younger children were given twice daily 0.025 gm. between meals, and older children 0.05 gm. over a period of three weeks, provided reddening of the skin resulted from a trial dose of the drug. The results were favorable in urticaria, asthma, spastic bronchitis, and less conclusively in exudative eczema. The author advises further trials with nicotinic acid treatment of allergic conditions in childhood.

COMMENT

There is good reason to believe that some favorable results may be obtained by the administration of nicotinic acid as indicated by the writer in this article. I would suggest that it is certainly worthy of trial.

State Board of Health

Felix J. Underwood, M.D.

NEW MEASURES FOR MORE EFFECTIVE VENEREAL DISEASE CONTROL

Since the beginning of the war the venereal diseases have presented an increasing problem to the armed forces, Selective Service, industry and other groups vital to the nation's security. To cope with this problem in Mississippi certain regulations were deemed essential, and to this end the following revision of the *Rules and Regulations Governing Coumunicable Diseases* (Section: "Syphilis and Gonorrhea") has been adopted by the State Board of Health, giving local health officers authority to deal with cases, contacts and suspects in requiring examination and/or treatment of these diseases so dangerous to public health and national safety. The new regulation will be used primarily in securing treatment of selectees, examination and treatment of contacts to military personnel and examination and treatment of contacts to infectious cases. It is only through the complete coöperation of physicians, public health workers, and laymen that success can be achieved in controlling these diseases. *Regulation:*

SYPHILIS AND GONORRHEA

(a) Syphilis and gonorrhea are hereby declared to be infectious diseases dangerous to the public health and public welfare.

(b) It shall be the duty of the State Board of Health or its representative to examine, isolate, quarantine, intern, confine in jail, or otherwise restrain for such period of time as deemed necessary by the State Board of Health or its representative, any person having chronic, persistent or infections syphilis or gonorrhea who may be dangerous to the public health. Further, it shall be the duty of the State Board of Health or its representative to provide adequate treatment facilities and, when necessary for the protection of public health, to administer such treatment deemed necessary by the State Board of Health or its representative to such person or persons.

For the purposes herein described, the State Board of Health may establish and maintain public health treatment centers or hospitals in which to isolate, quarantine, intern, confine, examine and treat infectious cases of syphilis, gonorrhea, and other venereal diseases when such centers or hospitals are deemed necessary by the State Board of Health to facilitate the control of such diseases and when funds are made available to the State Board of Health for this purpose by the state of Mississippi, local governmental agencies, or by federal or other agencies.

When, in the opinion of the State Board of Health or its representative, any person having syphilis, gonorrhea, or other venereal diseases in an infectious stage and whose isolation, quarantine, internment, and/or confinement are advisable for the protection of the public health and to assure adequate treatment to render such cases noninfectious, such person shall be isolated, quarantined, interned, and/or confined in any of the public health treatment centers provided by the State Board of Health for this purpose when and for such length of time as deemed advisable by the State Board of Health or its representative. Such action upon the part of the State Board of Health is contingent upon the State Board of Health providing transportation for such case to the proper treatment center, full maintenance and necessary medical service while in the center. Upon discharge of patient contact will be made with the various social service agencies for disposition of the patient.

Such a case of venereal disease whose isolation, quarantine, confinement, and internment in a public health center is deemed advisable by the State Board of Health or its representative may be admitted to a treatment center when the case signs proper application or referral form provided by the State Board of Health and when such application is approved by a representative of the State Board of Health. Such a properly prepared application or referral form when presented by the case to the medical officer in charge of the treatment center concerned shall admit such a case to the center for such examination and treatment, isolation, quarantine, detention, and internment as deemed advisable by the State Board of Health or its representative. Any case of infectious syphilis, gonorrhea, or other venereal disease whose isolation, quarantine, detention, or internment is in a public health treatment center, such a case may be isolated and quarantined in a county or city jail upon proper certification by the State Board of Health or its representative of the need for such action to the sheriff or jailer in charge of the jail to be so used and upon receipt of such certification the sheriff or jailer may place such case in a place in the jail provided for this purpose. When a case is isolated or detained in a jail upon such certification such a case shall remain there until released from quarantine or isolation by the State Board of Health or its representative or until transferred to a public health treatment center for further isolation, quarantine, detention, internment, and examination according to the method described above on a voluntary basis.

Any case of infectious syphilis, gonorrhea, or other venereal diseases admitted to one of the public health treatment centers as described above shall remain there under quarantine until in the opinion of the State Board of Health or its representative, dismissal from the public health treatment center would not endanger the public health.

(c) It shall be the duty of any licensed physician in Mississippi to report the name, age, sex, color, address, and such other information as deemed necessary by the State Board of Health of any person having chronic, persistent, or infectious syphilis or gonorrhea, or any person reported, on credible information, by a credible physician licensed to practice medicine in Mississippi as having syphilis or gonorrhea, and when such physician deems dangerous to the public health, to the county health officer in which the case or suspect resides or to the State Board of Health.

(d) Any person who has syphilis or gonorrhea shall submit to examination and treatment prescribed by the State Board of Health or its representative at a convenient and reasonable time and place designated by the State Board of Health or its representative. It shall be the duty of the State Board of Health or its representative to notify in writing such person who has syphilis or gonorrhea on a written or printed form prescribed by the State Board of Health as to the fact that such a person has syphilis or gonorrhea and is required to report for examination and treatment at a time and place designated by the State Board of Health or its representative. Any person with syphilis or gonorrhea, who after due notification fails or refuses to report at the time and place designated by the State Board of Health or its representative, shall be subject to prosecution as hereinafter provided. In such a case of refusal or failure, the State Board of Health or its representative may make an affidavit of such fact and cause a warrant for the arrest of such person returnable before any competent court of jurisdiction. Any such person who violates the above regulations shall be subject to penalty as prescribed in Section 4897, Code of 1930, or any amendment thereto.

(e) Any person suspected of having chronic or infectious syphilis or gonorrhea shall report for and submit to such examinations, including laboratory tests and physical examination, as the State Board of Health or its representative deems necessary. It shall be the duty of the State Board of Health or its representative to notify such reputed cases of syphilis or gonorrhea on a form provided by the State Board of Health of the time and place at which such infected person is to report for examination. Any person may be subjected to examination for treatment when reported on personal knowledge, or reasonable information, as a suspect by any licensed physician, or county health officer.

Any person who is known to engage in promiscuous sexual intercourse, whether for hire or not, may be required to submit to examination for syphilis or gonorrhea.

It shall be the duty of the State Board of Health or its representative to notify such persons reported as herein provided as having syphilis or gonorrhea to report for examination at a time and place designated by the State Board of Health or its representative. When such reported case of syphilis or gonorrhea, after due notification, fails to report at the time and place designated by the State Board of Health or its representative, such reported case shall be subjected to prosecution as provided by law for violating the rules of the State Board of Health. In such case of refusal or failure, the State Board of Health or its representative may cause a prosecution to be instituted before any competent court of jurisdiction. The reports herein required shall be kept in a secret file, and shall not be disclosed except in a legal proceeding in a court of competent jurisdiction for violation of these rules, or of a criminal prosecution for violating health laws.

Any person who violates the above regulations shall be subject to penalty as described in Section 4897 of the Mississippi Code of 1930.

* * * * *

Maternity and Infant Care for Wives and Infants of Enlisted Men

To each physician in Mississippi, the State Board of Health has sent a letter containing information relative to the program for maternity and infant care for wives and infants of enlisted men, as follows:

The First Deficiency Appropriation Act, 1943, was approved March 18, making available an appropriation of $1,200,000 for the period ending June 20, 1943, "for grants to states, including Alaska, Hawaii, Puerto Rico, and the District of Columbia, to provide, in addition to similar services otherwise available, medical, nursing, and hospital maternity and infant care for wives and infants of enlisted men in the armed forces of the United States of the fourth, fifth, sixth, or seventh grades, under allotments by the Secretary of Labor and plans developed and administered by state health agencies and approved by the Chief of the Children's Bureau." This excludes the families of commissioned officers; of master, major, first, technical, and staff sergeants;

and of chief, first and second class petty officers.

The new appropriations have been designated "Emergency Maternity and Infant Care Funds" to be known as Fund E. The Children's Bureau will administer the program in general in accordance with policies and regulation relating to the maternal and child health program through the state maternal and child health division.

The program was activated in Mississippi during April, but not in the entire state at once because of insufficient personnel to handle the detail necessary to its inauguration on a state-wide scale at one time. The direction in which the program has been extended has been determined by the areas in which need is greatest.

In brief, the plan is a means of providing some compensation to physicians and, where indicated, hospitals, for the maternity care rendered to the wives of servicemen in the specified grades. Medical and hospital care may also be purchased for acutely ill children under one year of age, whose fathers are servicemen in the same grades.

As with all federal funds, there are certain regulations which must be followed to secure these funds. These rulings are designed to make as uniform and as safe as possible all types of service rendered in the states and territories under this plan. Your State Board of Health has simplified the routine of handling the plan to a minimum, and with your coöperation we believe it can be carried on satisfactorily.

Application forms have been sent to all county health departments, departments of public welfare, Red Cross officials, American Legion posts, and other community agencies known to the Maternal and Child Health Division. The patient secures her application blank and sends it immediately to the Maternal and Child Health Division for authorization.

Any physician licensed to practice medicine in Mississippi is eligible to give care under this plan if he so desires, but since funds are definitely limited, and in order to insure payment for services rendered, all applications must be authorized through the Maternal and Child Health Division as soon as they are made out. The husband's serial number, together with his rank, must appear on the application blank.

Wherever any Army or Navy facilities, state or local health agencies offer similar care, this plan is not applicable, as it is entirely supplemental to any care now available.

As soon as authorization is made, the patient, physician, local health department, and hospital, where requested, will be notified that care is authorized, and funds will be set aside specifically for that individual's care.

Under the federal ruling, any hospital in which a physician requests care for a patient, must be visited by a representative of the State Board of Health and found to comply with certain essentials requisite for safe obstetric and newborn care. As of May 24, 1943, over twenty hospitals throughout the state had already requested participation in this program, met the requisites, and are now active in the service. Hospitals fully approved by the American College of Surgeons are considered as eligible on that basis.

Local public health clinics may be used wherever desired by the physician. The public health nursing service is particularly essential in the education of the mothers and in keeping them in regular contact with their physicians.

Where the patient is seen by the physician five or more times during the parental period a flat fee of $35.00 is paid, to include all of the pre- and postnatal care of mother and child. as well as delivery. Where she had been seen for less than five prenatal visits, the fee is $25.00, covering the same as specified above.

Hospital care is paid for at the rate of $2.50 per day as established in 1932 by the Mississippi State Legislature. However, an additional $1.00 per day is allowed for the newborn, as well as delivery room fee, and transfusion and ambulance costs where necessary. Fourteen-day hospital care for obstetric cases, and fourteen for pediatric cases will be authorized, although where satisfactory arrangements can be made for transfer of patients at an earlier date, this may be done.

All of the foreseeable exigencies have been specifically provided for, including consultation, emergency cases, extended periods of illness, and special nursing care.

The local county health department will be the focus for information on this program and will coöperate in every way in furnishing information and other assistance to all participants in the plan.

The State Board of Health, through its Maternal and Child Health Division, is undertaking this program in a purely administrative capacity, and cannot directly furnish care, except through the setup described. Many physicians and institutions throughout the state have been doing an excellent job in giving this care without any visible remuneration, and we welcome this opportunity of securing for them at least a nominal fee.

An additional $28,000 was allotted to Mississippi by the Children's Bureau to carry on this maternity care program for the month of June, it has been announced. Since the program began on April 20, more than 600 cases had been handled up to June 10, during which time the original allotment of $22,500 was exhausted.

The medical profession and hospitals have rendered wholeheartedly and patriotically to the need for rendering this service to the wives of America's fighting men, with a number of the fifty participating hospitals renovating and remodeling equipment and providing special wards and nurseries in order to meet the essential requirements for this care.

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Members of the Auxiliary to the Northeast Mississippi Thirteen Counties Society enjoyed a meeting at the Baptist church in Houlka June 8, with Mrs. Stanley A. Hill of Corinth, presiding in the absence of Mrs. E. K. Guinn of Okolona, the president.

The church was lavishly decorated with fragrant and beautiful magnolias. The program included a message from Dr. J. Harley Harris of Memphis, a native of Houlka, and a report of the meeting of the state meeting by Mrs. J. Rice Williams. In token of his eighty-fourth birthday (June 14), Mrs. Williams presented Dr. W. C. Walker with a gift from the group. Dr. Walker is a frequent guest of the organization.

A delightful program of music was arranged by Mrs. J. M. Hood, Mrs. Clyde Stewart and Miss Maureen Collums, after which the guests were entertained with tea at the home of Mrs. G. B. Blake. Mrs. Paul Griffin joined Mrs. Blake in extending the hospitality. Mrs. Floyd Davis and Miss Lilly Frances Hood presided at the tea table, exquisitely appointed with lace cover, candles, and centerpiece of sweet-peas, roses, snapdragons and larkspur.

The auxiliary will meet in Aberdeen the second Tuesday in September.

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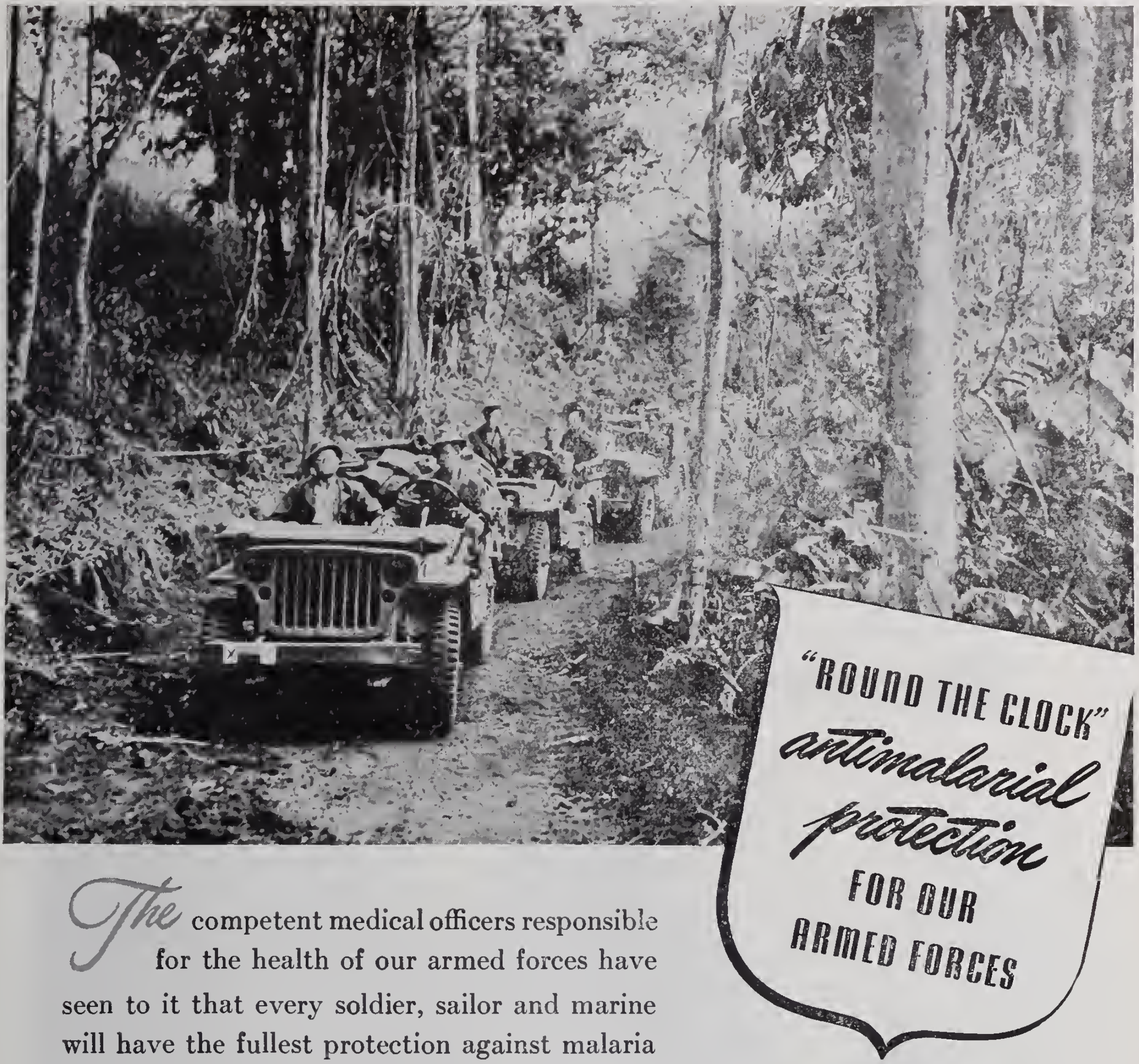

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"May we never be hasty in judgment and always generous.

"May we put away pretense and meet each other face to face without self-pity and without prejudice.

"Let us take time for all things; make us grow calm serene, gentle.

"Teach us to put into action our better impulses straightforward and unafraid.

"Grant that we may realize it is the little things that create differences; that in the big things of life we are one.

"And may we strive to touch and know the great woman's heart of us all, and, O Lord God, let us not forget to be kind."

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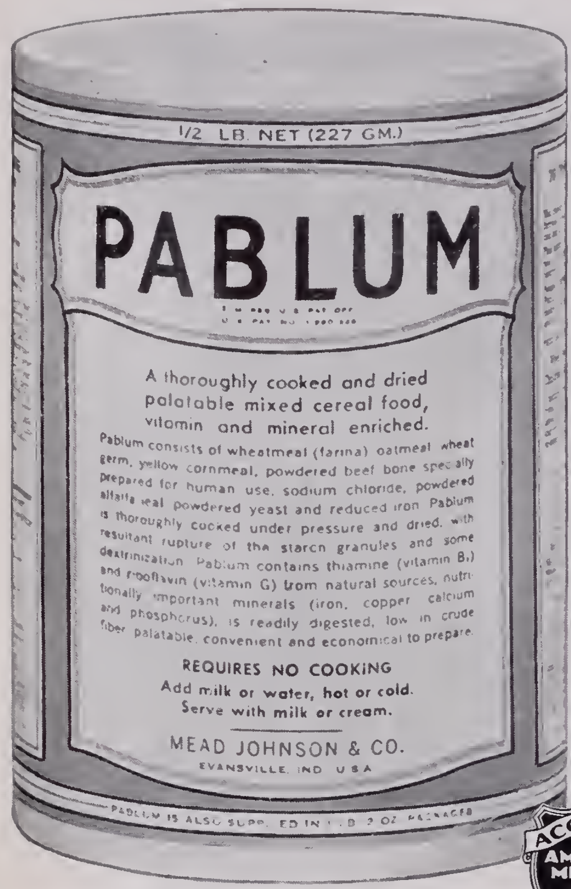
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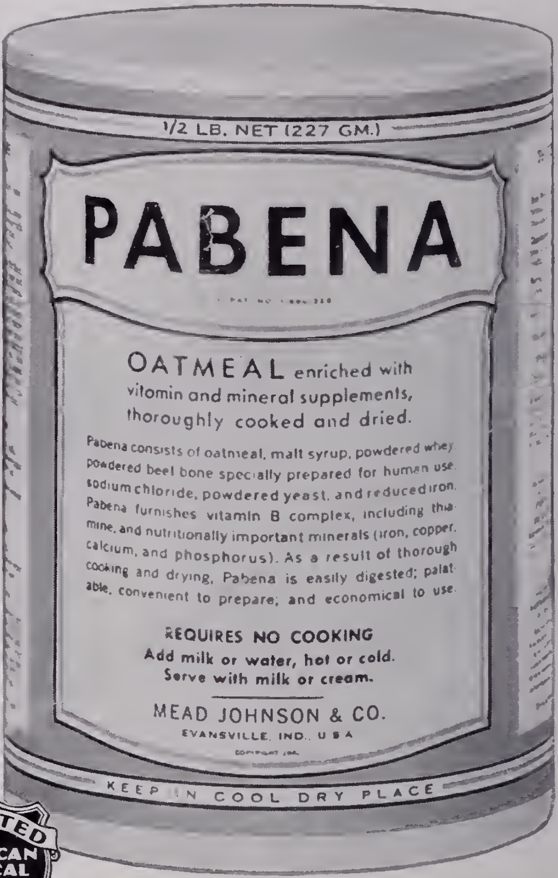
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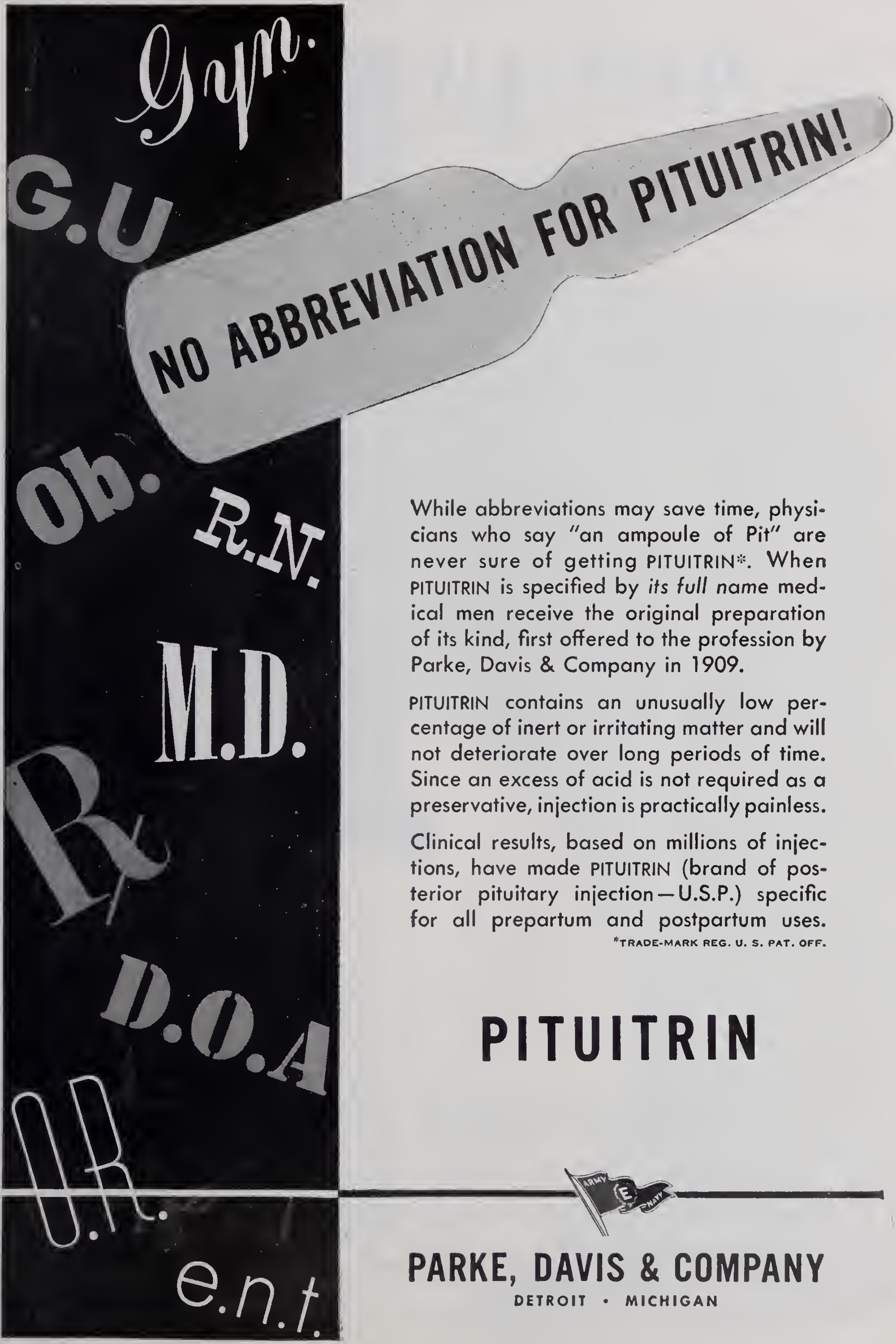

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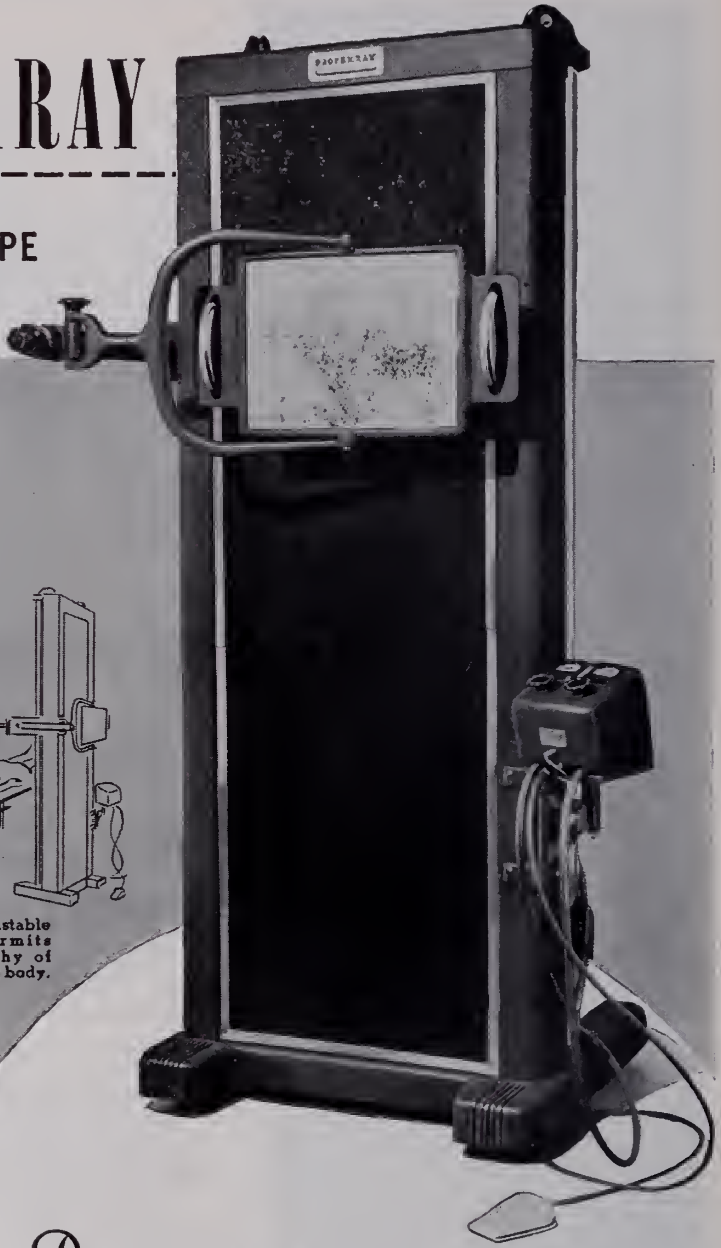

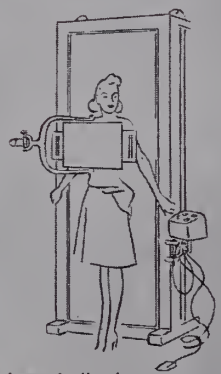

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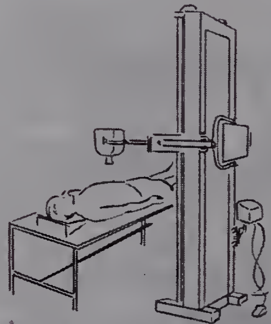

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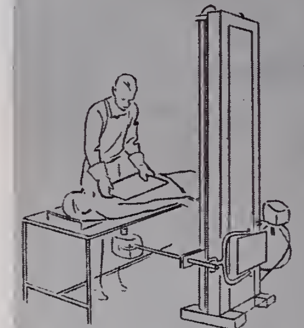

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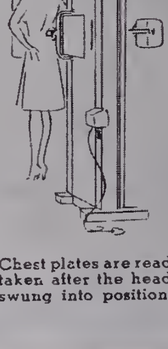

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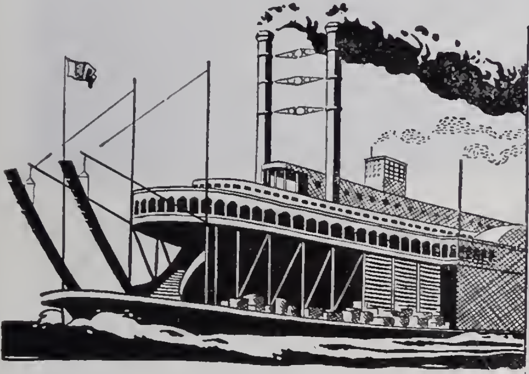

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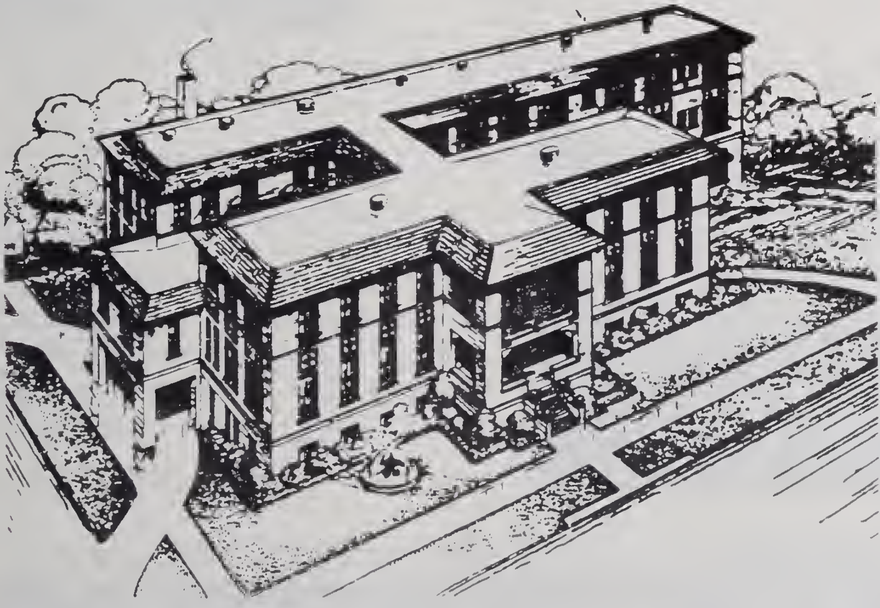

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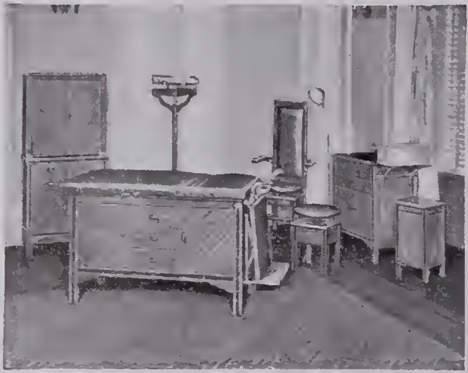

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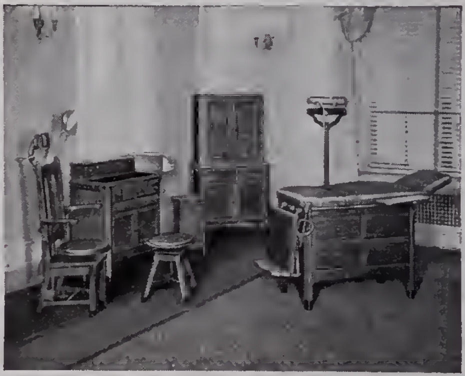

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Recent Advances in the Treatment of Carcinoma of the Prostate*†

EDGAR BURNS, M.D.
NEW ORLEANS, LA.

IN APPROACHING the problem of prostatic carcinoma, certain known facts regarding the disease should be reviewed. The etiology of cancer of the prostate, as all cancer, is still unknown. The disease is found in the same age group as benign hypertrophy and occurs most frequently between the ages of sixty and seventy years. Associated lesions such as prostatitis, hyperplasia, and, rarely, stones apparently bear no causal relationship.

In order to understand the clinical possibilities of prostatic carcinoma, one should keep in mind the points of origin, the course along which it spreads, and the tissue most likely to become involved in metastatic lesions. From the standpoint of origin, cancer in the prostate may be divided into two groups. In the first group is the primary growth which is distinct from an accompanying hyperplasia and in many cases is found to be intimately associated with senile atrophy. The site of origin in this group is in the posterior lobe, well back of the prostatic urethra. The second group includes these cases in which the primary growth is situated in the midst of hyperplasia, usually unsuspected and discovered only upon pathologic examination of tissue removed at operation. From the standpoint of pathologic changes, Hinman[1] believes that all carcinomas of the prostate are adenocarcinomatous in nature and that differentiation is of little importance. Huggins[2] believes that it is important to separate the larger group of true adenocarcinomas from the smaller group of the undifferentiated variety.

The onset of carcinoma of the prostate is usually insidious, and growth is slow. In some cases it may remain confined to the prostate or periprostatic regions for a long period, during which time the patient has no symptoms. Later, however, it extends beyond the posterior lobe into the lateral lobes and then through the prostatic capsule into the seminal vesicles. The prostate is abundant in lymphatic glands through which carcinoma readily extends to the pelvic and abdominal lymph nodes. These press upon the nerves in this region producing pain. Early in its course, the malignancy may disseminate through the blood stream, and distant metastases, particularly in the bones, are often detected before the appearance of local symptoms. With the progression of the disease, eventually two symptoms develop: (1) some degree of obstruction at the neck of the bladder, and (2) pain from pressure on nerves by enlarged perineural lymph nodes and bony metastases where the joint surfaces have become involved and motion interfered with.

Despite the increased incidence of prostatic carcinoma, its early diagnosis still remains a clinical rarity. There are a number of reasons for the late discovery of the disease. In about three-fourths of the cases, the neoplasm originates in the posterior lobe at a relatively great distance from the urethra and in many cases the lesion grows so slowly that a long period may elapse before urinary obstruction appears. In the group of cases that develop within the sphere of benign hypertrophy, the nodule may be completely concealed from the examining finger. A few elderly men regard a certain amount of urinary difficulty as an inevitable consequence of advancing years and defer seeking medical care until urinary retention or pain from metastatic lesions appear. Finally, small isolated nodules in the prostate of a man within the carcinomatous age are not generally given the consideration they deserve.

The symptoms of urinary obstruction caused by cancer of the prostate do not differ from those produced by benign hypertrophy and the diagnosis must be made upon the basis of other findings. Pain, on the other hand, resulting from metastatic lesions, is often of such a character as to suggest the presence of cancer even with the absence of urinary symptoms. Sciatica in a man sixty years of age should arouse suspicion and, if bilateral, is almost pathognomonic of prostatic malignancy. Edema in one or both legs in an old man whose kidneys and circulation are normal is suggestive of carcinoma of the prostate. On rectal palpation one finds a stony-hard, fixed prostatic mass which may extend in the region of both seminal vesicles. Differentiation from prostatic stones and tuberculosis must be made. Patients suffering from backache frequently consult the radiologist and the diagnosis may be made from lesions found in the pelvis and lumbar spine. Additional roentgenographic studies of the chest should be taken to eliminate the possibility of pulmonary metastases. If routine plates of the chest are made, unquestionably more metastatic lesions of the lung will be found than are now being recognized. Additional diagnostic evidence of metastasizing prostatic carcinoma may be obtained through serum acid phosphatase determinations of the blood. Through the recent work of Sullivan, Gutman, and Gutman[3] and Huggins and his associates[4, 5], it has been shown that the serum acid phosphatase reaches abnormal levels in about eighty-five per cent of metastatic prostatic carcinomas. This determination has valuable clinical application. In addition to corroborating the diagnosis of metastasizing prostatic carcinoma suggested by other findings, Huggins and his co-workers state that (1) it provides evidence of metastasis from carcinoma of the prostate before it can be demonstrated by roentgenography or other methods; (2) it aids in determining the prostatic or non-prostatic origin of tumors in patients known to have metastasis; (3) it helps to differentiate Paget's diseases from metastatic prostatic carcinoma; (4) it aids in the selection of cases for prostatectomy and in the detection of the recurrence in prostatectomized patients; and (5) it aids in the selection of cases for androgen control and in the evaluation and regulation of such treatment. In evaluating serum acid phosphatase determinations, one should remember that there are no false positives. Prostatic carcinoma may exist for a long period before enough proliferation occurs to produce abnormal levels. Its value, therefore, is confined to the confirmation of metastatic lesions. The diagnosis of prostatic carcinoma is confirmed by pathologic section of the tissue removed, by punch biopsy or by examination of tissue removed at operation.

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*From the Section on Urology, Ochsner Clinic, New Orleans.

†Read before the seventy-sixth annual session of the Mississippi State Medical Association, Section on Medicine, May, 1943.

From the standpoint of treatment, it is generally recognized that less than five per cent of cases are seen early enough to make a radical attempt at cure a practical procedure. Radical perineal prostatectomy has long been advocated by Young[6], Gilbert Smith[7], Henline[8] and others. Belt[9] recently reported the operative results obtained in fifty cases over a period of twenty years. Of that number there were two operative deaths. Ten patients died over a period of ten years of causes other than cancer; nineteen died of metastasis and local recurrence, and nineteen are still living without evidence of cancer. Hence, the author concludes that during a period of twenty years he has been able to prevent death from cancer in nineteen patients by radical operation. In evaluating these results, it should be pointed out that this small group of cases would probably not have been saved by any other method.

For the majority of cases considered too far advanced for attempted radical cure, treatment is directed toward (1) relief of obstruction at the neck of the bladder, and (2) the relief of pain from metastatic lesions. For removal of obstruction at the neck of the bladder, transurethral resection is the method of choice. Under adequate vision, all obstructing tissue can be removed and normal urinary function restored. The procedure is associated with very little reaction and the majority of patients are out of bed in four or five days. The operative mortality should be less than five per cent. It must be recognized, of course, that one is dealing with a progressive disease and that subsequent obstruction may occur. Fortunately, however, very few of these individuals have to be reoperated on within a year and many go as long as three or four years before obstruction recurs. The fact that the carcinoma often spreads in the periprostatic region rather than toward the urethra prevents re-obstruction in a large number of patients.

An attack upon the primary growth by either radium or x-ray is rarely if ever justified. Any benefits that might be anticipated by application of radium are far offset by the unpleasant reactions from it. The effect of x-ray upon the growth in the prostate has been equally disappointing, as the dose required is more than these old men can usually stand. Hinman[1] states that no case has ever been cured by either radium or x-ray.

For the relief of pain, a variety of methods is at our disposal at the present time. Forty per cent of cases are relieved by deep x-ray therapy applied to the metastatic areas, the relief usually being obtained within fourteen days and lasting for a variable period of time. The intraspinal injection of absolute alcohol and section of posterior nerve roots and the pain pathways of the spinal cord have all been used. Because of the progressive nature of the disease, the success of these methods has been short-lived.

About three years ago Huggins and his associates[2,4,5] offered an entirely new approach to the problem of prostatic carcinoma based on endocrine sensitivity. Serum acid phosphatase known to be present chiefly in adult prostatic cells was found to be activated by the androgenic hormone produced by the testicles. With this in mind, they studied the serum acid phosphatase levels in cases of known carcinoma of the prostate which they found to be greatly increased in most cases with widespread metastases. They also observed that the activity of the neoplasm could be increased by the androgen and greatly decreased by the injection of estrogen or by excision of the testicles. It was, therefore, concluded that the methods which reduced the androgenic phase would be beneficial in the clinical management of prostatic carcinoma.

On the basis of these findings, they started castrating patients with advanced cancer of the prostate. They first reported the results obtained in twenty-nine patients observed over a period of twenty months. Four of the patients died shortly after operation. Clinical improvement was considered satisfactory in eighty per cent of those treated. Later Alyea and Henderson[10] discussed the immediate response to castration in forty patients with carcinoma of the prostate all done within a year of the time the report was made. The early results indicated remarkable relief from pain and a general feeling of well-being. Important postoperative findings were regression of the primary tumor, healing of metastatic bony lesions, and the disappearance of the metastatic tumor in the lungs. During the past year, hundreds of similar cases have been reported. Almost complete relief from pain may be expected in eighty per cent of the cases and is usually obtained within forty-eight hours from the time of castration. There is a feeling of well-being, an increased appetite, progressive gain in weight and an increase in the red blood cell and hemoglobin counts. In cases with spinal metastases it has been reported that enough regression of the spinal lesions has been obtained for complete restoration of motor and sensory function.

Our own experience up to the present time is limited to twenty-four cases, all done within the past year. One of the early patients had a previous prostatic resection for relief of obstruction and had required large doses of morphine for relief of pain for a long time. He was admitted to the hospital in a semiconscious state. Within forty-eight hours following removal of the testicles, he was completely conscious, practically free of pain, and was able to walk out of the hospital ten days later. Improvement in this case was short-lived, as he had a return of pain about six weeks after leaving the hospital and died within four months later of generalized carcinomatosis. The other twenty-three patients are still alive, the majority of them completely comfortable and in apparent good health. Twenty-three of the cases had a transurethral resection prior to removal of the testicles; one patient, not completely obstructed, had the clinical diagnosis confirmed by removal of a gland from the groin which showed metastatic cells. So far, we have not noted any regression of the primary tumor and he has not been completely relieved of the pain. In two cases the prostatic growth has regressed to the extent that one could not be absolutely certain, without access to his past records, that either of the patients ever had carcinoma of the prostate. A regression in the metastatic bony lesions has not been noted in any case and one patient who had only slightly suspicious bony lesions at the time the testicles were removed had numerous metastatic areas when he returned for his first check-up four months later. In evaluating the weight gain in these patients, one must remember that they are being converted into eunuchs who have a tendency to obesity.

Herbst[11], Chute and his associates[12], Heckel and Kretschmer[13], and others have reported relief from symptoms by the use of stilbestrol. We have used it over a period of three years with complete relief of pain in some cases, but in no case has there ever been any change in the primary growth, in the metastatic lesions, or in the amount of urinary retention. We believe, however, that it should be used in all patients who cannot be castrated. The correct dosage is one to three milligrams a day and may be continued in most cases for almost an indefinite period without reaction. One of our patients had over 3,000,000 units in a year and a half without any apparent reaction. We know now that this is much more than he should have been given.

There seems to be some difference in opinion as to the advisability of giving stilbestrol after castration is performed. In view of the fact that there may be an extra testicular source of hormone, chiefly the adrenals, it may be indicated and we have found no objection to its use. One milligram a day by mouth is probably a sufficient dose. Huggins[14], however, states that it is of no value in this type of case. There is also some difference in opinion as to the type of operation that should be carried out in the removal of the testicles. The three methods used are: 1) severance of the cord and removal of the testicle with its covering and the epididymis; 2) removal of the testicle but not the epididymis; and 3) subcapsular removal of the testicular tissue. The only reason for leaving the epididymis or the epididymis and tunica is to offset the psychologicial effect that an empty scrotum has upon some persons. Removal of the testicles has produced unpleasant effects such as complete loss of sexual power in all of our cases and hot flashes in some. The hot flashes may be relieved by the administration of stilbestrol, but so far restoration of sexual power has not been accomplished.

No one at the present time would presume to cure cancer of the prostate by removal of the testicles or by the administration of stilbestrol. Some of the patients with apparently good results may be expected to return within a year because of recurrence of symptoms. Whether or not any cures have been obtained will not be known for at least five years. The relief from pain after removal of the testicles and administration of stilbestrol is much greater than that obtained from any other method. This alone is enough to recommend the procedure.

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The Present Status of Sulfonamides in Ophthalmology*

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SINCE THE introduction of sulfonamides to the medical profession, therapy is all branches of medicine has been revolutionized. Prior to 1936 no mention of these drugs was found in ophthalmic literature, but since this date there have been numerous articles dealing with both experimental and clinical reports. As with the introduction of any new drug there has been a lack of uniformity as to their therapeutic value. There is no doubt but their use has been abused by the ophthalmologist as well as by other branches of the medical profession. The purpose of this paper is to review some of the literature and try to formulate to some extent what the present status of these drugs is.

MODE OF ACTION

The mode of action of the sulfonamides seems to be the same in vivo and in vitro. It is the concensus of opinion that the drugs are bacteriostatic and not bactericidal. An extremely high concentration of the drug, beyond that attainable in vivo is necessary to produce any bactericidal effect. They have no effect upon the toxin-producing capacity or virulence of the organisms, nor do they produce alteration of the strain. They merely act by retarding the growth of bacteria until the immunological response of the host can combat the infection.

ABSORPTION AND DIFFUSION

Since the sulfonamides exert their maximum therapeutic effect only when satisfactory concentrations are obtained at the site of infection, it is important for the ophthalmologist to know approximately the concentration of the therapeutic agent in the aqueous and other ocular tissues. Leibman and Newman working with rabbits, Scheie and Leopold working with cats, and Bellows and Chinn working with dogs, have carried on a series of experiments on the absorption and diffusibility of the various sulfonamides with practically the same conclusions. All the drugs are absorbed fairly rapidly from the gastro-intestinal tract with the exception of sulfapyridine which seems to be more irritating and is likewise absorbed more slowly. The highest blood concentration is reached after four to six hours of ingestion. Bellows and Chinn also showed that the rate of absorption of sulfathiazole and its concentration in the blood and aqueous was enhanced by dissolving it in hydrochloric acid, a point to be remembered in patients who might have achlorhydria. The results of the various experiments indicates that the concentration of sulfanilamide and sulfathiazole in the aqueous is only about one fifth that in the blood, while the concentration of sulfadiazine is one half the blood level. From this report it would appear that the concentration of sulfathiazole is not sufficient to be effective and therefore should not be used. However, Scheie and Leopold's experiments on cats indicates that the concentration of sulfathiazole in the aqueous is enhanced by infection and in the presence of infection does reach an effective therapeutic level. Why sulfathiazole should be held back is not known as its molecular size is comparable to that of other sulfonamide compounds. It seems that the penetration of sulfathiazole into the aqueous parallels the behavior of serum proteins. Like serum proteins, the drug is held back by the blood aqueous barrier, which acts as a semipermeable membrane. In the presence of infection this blood aqueous barrier seems to be broken down and there is an effective concentration reached in the aqueous.

The effectiveness of sulfathiazole is borne out clinically by reports such as Banks who treated 96 cases of epidemic meningitis with only two per cent mortality, which is quite significant since the concentration of sulfathiazole in the spinal fluid in practically the same as in the aqueous. However, there will have to be more reports in the ophthalmic literature showing its effective therapeutic value before we can safely use sulfathiazole in preference to one of the other sulfonamides that is known to be diffused in effective concentrations through the ocular tissues. The concentration of the sulfonamides in the aqueous after local instillations of either the powder, solution or ophthalmic ointment reaches almost negligible amounts. It therefore appears that the local application cannot be relied upon when dealing with an intraocular infection but they may have definite value in extraocular infections.

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EXCRETION

Sulfanilamide is eliminated principally through the kidneys and varies almost directly with the excretion of water. It is eliminated in both the free and acetylated form. Sulfapyridine is excreted largely in the acetylated form and owing to its poor solubility readily crystallizes out and forms renal calculi. Sulfathiazole is excreted more rapidly than either sulfanilamide or sulfapyridine while sulfadiazine is excreted more slowly than either. In the presence of severe kidney damage there may be an accumulative effect with either of the drugs. It is advisable to give fluids freely in order to prevent formation of renal calculi. If blood appears in the urine the drugs should be stopped.

TOXIC EFFECT AND UNTOWARD REACTIONS

The sulfonamides in spite of their therapeutic effectiveness in many conditions are not without toxic manifestations which vary in frequency and seriousness. Cyanosis is frequently observed with sulfanilamide and occasionally with sulfapyridine and infrequently with sulfathiazole and sulfadiazine. It is due to an accumulation of methhemoglobin or sulfhemoglobin and should occasion no alarm, nor should treatment be discontinued because of its presence. The intravenous use of thiamine hydrochloride will return the blood pigment to normal almost immediately. It is a myth that foods containing a sulphur as eggs or drugs with sulphur radicals increase the amount of sulfhemoglobin.

Nausea and vomiting are frequently seen with sulfapyridine, occasionally with sulfanilamide rarely with sulfathiazole or sulfadiazine. In my experience all the drugs are better tolerated if given along with moderate amount of food. Phenobarbital or other barbiturates one half before administration of the drug frequently reduces nausea and vomiting.

Fever may occur while using any of the drugs and usually occurs between the fifth and ninth day. If it does occur the drug should be stopped and fluids forced. A drug rash occurs in from two to five per cent of patients treated and many be of any variety. In the event a rash develops, the drug should be discontinued.

The more serious complications are hepatitis, hemolytic anemia and leukopenia with granulocytopenia. Frequent blood counts should be done on all patients receiving sulfonamide therapy. If the total leucocyte count drops below 4000 the drug should be discontinued. There should also be frequent urinalyses done and in the event hematuria occurs the drug should be discontinued and fluids forced. Goar reports two cases of petechial retinal hemorrhages and attributes them to drug allergy. There have been several cases of transitory myopia reported in patients being treated with sulfonamides and it has been attributed to spasm of the ciliary muscle or edema of the crystalline lens.

DOSAGE OF SULFONAMIDES

According to Guyton, a blood sulfanilamide concentration of approximately 10 mg. per cent may be maintained in human beings with comparative safety for a considerable number of days. This concentration is effective against all the infections that can be treated with clinical success and a higher concentration is no more effective and is definitely more dangerous to the patient. A blood concentration of 5 to 10 mg. per cent is adequate for those infections in which speed is not of prime importance. It is desirable to have blood concentrations done on all patients, but since this is not always possible or practical for the busy ophthalmologist. I feel like it is safe to base the dosage on the age and weight of the patient and the virulence of the infection one is treating. It is my policy to give from ½ to one grain per pound of body weight in twenty-four hours. One-third to one-half the total twenty-four dosage is given as an initial dose; subsequently a full twenty-four hour dosage is given in divided portions at four-hour intervals.

CLINICAL USE OF SULFONAMIDES

After reviewing briefly the mode of action, dosage, absorption, diffusion, excretion and toxicology of the sulfonamides, let us consider how the principles of sulfonamide therapy can be applied in every day clinical practice. Because of their toxicology, it is my firm conviction that they should not be utilized indiscriminately for every slight infection, particularly those infections which are self limited or easily controlled, but should be reserved for the more serious conditions.

ACUTE CONJUNCTIVITIS

From the reports in the literature the effects of the local use of sulfonamides is hard to evaluate. Theoretically, most of the organisms causing acute conjunctivitis are sensitive to the drugs. Horton Young praises the prophylactic and therapeutic value of 2½ per cent solution of neoprontosil instilled into the eye and recommends it highly in both acute and chronic conjunctivitis. He also recommends it for diagnostic aid in traumatic lesions of the eye in place of flourescin and employs it before and after all operative procedures on the globe and adnexa. I have used the 5 per cent sodium salt of sulfathiazole with good clinical results but have not followed it up with bacteriological studies. In the more severe cases of conjunctivitis and especially those that do not respond to local measures or those cases in which the cornea is involved, one is justified in using one of the drugs orally. I have also used the 5 per cent sulfathiazole ointment a good deal, but most patients object to the blurred vision after using the ophthalmic ointment.

GONORRHEAL CONJUNCTIVITIS

From the reports in the literature and in my own experience there is no longer any doubt in my mind of the therapeutic value of the sulfonamides in treating this disease. Sulfapyridine is remarkably effective against the gonococcus and sulfathiazole slightly less effective and both definitely more effective than sulfanilamide. However, owing to the low toxicity sulfathiazole is the drug of choice. The effectiveness of either is augmented by the use of foreign protein which should always be given in complicated cases. Frequent boric acid irrigations and the instillation of neoprontosil or 8 per cent sulfanilamide and the use of ice compresses are also recommended. It does not seem that one is justified in using local applications of the drug alone as the results are much better when the drug is given orally.

In the treatment of gonorrheal uveitis according to Guyton the sulfonamides were of no significant value either from the viewpoint of immediate improvement or prevention of recurrence.

TRACHOMA

Regarding the value of sulfonamides in trachoma it appears that opinion of most clinicians falls into one of three groups: 1) those who believe the sulfonamides are curative or at least of great value, and 2) those who classify these drugs as useful adjuncts, 3) those who classify these drugs as ineffective. There seems to be a lack of proof that sulfonamides cure trachoma but there is little doubt of most clinicians that there is marked improvement of both subjective and objective symptoms. The oral administration of the drug is the method of choice and it seems that the most effective results are obtained by intensive treatment for a short period of time rather than small fractional dosage over a protracted period. It appears that the dosage used may account for the lack of uniformity in clinical reports.

INCLUSION CONJUNCTIVITIS

This is a virus disease like trachoma and responds readily to sulfonamide therapy. Thygeson reports the time of healing decreased from three to five months to two weeks in infants and only slightly longer in adults. Guyton reported cures in two cases within six days.

BLEPHORITIS

This is a condition most frequently caused by the staphlococcus and before the use of sulfonamides responded very slowly to treatment. According to Thygeson excellent results are obtained by using 5 per cent sulfathiazole ophthalmic ointment locally four to six times daily. He also reports that even better results are obtained when it is used in conjunction with staphylococcus toxoid.

CORNEAL ULCERS

Since serpent ulcers are usually caused by the pneumococcus and since most all the organisms are affected by the sulfonamides one is certainly justified in using sulfonamides both orally and locally in refractory ulcers. According to Saskin and Bailey when improvement sets in it proceeds uninterruptedly and the drug need not be continued until all objective evidence of the lesion has disappeared.

SYMPATHETIC OPTHALMIA

There have not been enough cases of sympathetic opthalmia treated with sulfonamides reported for one to evaluate its effectiveness. There is also lack of proof as to diagnosis in those cases that have been treated, but I would certainly use sulfonamides in any suspected case of sympathetic ophthalmia.

CELLULITIS OF LIDS AND ORBIT AND ERYSIPELAS

There is no doubt of the effectiveness of sulfonamides in cellulitis of the lids, orbit and erysipelas. The drug should be given in large doses and drainage instituted as soon as pus is localized. The sulfonamides have also been used successfully in both acute and chronic infections of the tear sac.

OCULAR TUBERCULOSIS

Guyton treated five cases of ocular tuberculosis with sulfanilamide over a period of nineteen days and maintained an 8 mg. per cent blood level and concluded that it had no beneficial effect.

UVEITIS OF UNDETERMINED ORIGIN

In my review of the literature I have not come across any series of reports where the sulfonamides have been used in the treatment of uveitis caused from foci of infection or uveitis of undetermined origin. However, I have used sulfadiazine in several cases of iritis and posterior uveitis and have not seen any beneficial results from its use.

ENDOPHTHALMITIS AND PANOPHALMITIS

There are excellent reports on the value of sulfonamides in purulent infections post-operatively and also following injury to the eye. Sulfadiazine is the drug of choice and should be given early and in large doses once there is evidence of infection. Following all perforating wounds to the globe, it is my policy to give sulfadiazine and foreign protein therapy.

INTERSTITIAL KERATITIS

Jay M. Arena reports seven cases of interstitial keratitis treated with sulfonamides in conjunction with bismuth twice weekly intramuscularly and reported that the photophobia and clouding of the cornea cleared in one to three weeks.

SUMMARY AND CONCLUSIONS

1. The sulfonamides are bacteriostatic and have no bactericidal properities in the concentrations used in treating diseases in the human being.
2. All the sulfonamides are absorbed readily and diffused through the ocular tissues in effective therapeutic concentrations with the exception of sulfathiazole and experimental and clinical reports indicate that in the presence of infection its concentration is enhanced and does reach an effective therapeutic level.
3. The sulfonamides are excreted almost exclusively by the kidneys and in the presence of kidney damage there may be an accumulative effect.
4. The sulfonamides are not without toxic effect and therefore should not be used indiscriminately.
5. The sulfonamides are of proved value in treating gonorrheal conjunctivitis, inclusion blenorrhea, trachoma, blephoritis, erysipelas, corneal ulcers, cellulitis of lids and orbit, and postoperative infections. They may be of therapeutic value in other diseased conditions of the eye, but one cannot evaluate their usefulness at the present time.

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Discussion

Dr. H. L. Arnold (Meridian)—The use of sulfonamides has become so general that the thought arises whether or not bacteria may become relatively immune to the effects of the drug.

All reports indicate that sulfathiazole is found in the eye in less concentration than the other sulfonamides, but the penetration in the aqueous is greatly increased by ocular inflammation and by the use of vasodilators, especially mecholyl hydrochloride and histamine, according to Scheie and Leopold. The use of such vasodilators may prove to be a useful therapeutic aid.

I quite agree with Dr. Green that the use of the sulfonamides should be reserved for the more serious conditions.

The local use of sulfonamide in the eye has not been impressive, but Boyd has reported that by iontophoresis the sulfathiazole concentration in the cornea and aqueous can be increased in two minutes about ten times over ordinary absorption.

As reported by Alvaro some of the toxic effects seen in the eye from the use of sulfonamide compounds are 1) palpebral edema, 2) conjunctivitis, 3) chemosis, 4) scleral reaction, 5) numerous cells in the aqueous and iritis, 6) mydriasis, 7) cataract, 8) changes in the angioscotomas, 9) edema of the retina, 10) reduction in the visual fields, 11) retinal hemorrages, 12) optic neuritis, 13) blurred vision, 14) transient hyperopia, astigmatism or myopia, 15) changes in accomodation and heterophorias.

Dr. D. W. Hamrick (Corinth)—I have read Dr. Green's paper with a great deal of interest. His approach and treatment of this subject is most thorough and informative. I can add very little to his presentation since his research and wide covering of the literature is most complete. I would like to emphasize a few points which he has brought out, from my own personal observations.

Traumatic Cases

I have made it a practice for the past two years of giving one of the sulfonamides, preferably sulfathiazole, orally to all severe traumatic eye cases, particularly puncture wounds of the globe and severe lacerations of the cornea. I have also used either the 5 per cent ointment of either sulfanilamide or sulfathiazole locally in all these cases. The dosage by mouth has been in most of these cases about one-half grain per pound of body weight per twenty-four hours, with the usual larger initial dosage. This is in addition to the usual former measures used in these cases. All cataract and major eye surgery is followed by local sulfonamide ointment in addition to usual former routine, and I am convinced they certainly minimize infection in most cases.

Trachoma

I have seen four acute cases of trachoma during 1941 and 1942 and have been greatly impressed with the almost uniform improvement both clinically and in the appearance of the local lesions, at least in the acute stage, from sulfonamide therapy. In these cases I have used sulfanilamide grs. $\frac{1}{3}$ per pound of body weight per twenty-four hours for ten days then $\frac{1}{4}$ grs. per pound of body weight per twenty-four hours for indefinite period together with 5 per cent sulfanilamide ointment locally three times daily. No other therapy was found necessary and these patients were seen once weekly and checked for drop in total red count, Hb, leucocytes and differential.

Ulcers of Cornea

I am mentioning this simply to emphasize how effective a staining agent 2.5 per cent neoprontosil is in staining corneal ulcers. I prefer it to fluorescin.

May I thank Doctor Green again for his splendid presentation of a subject in which we are all interested.

Cancer Control*

K. O. STINGILY, M.D.
MERIDIAN, MISS.

IT WAS my intention to write a scientific and technical paper on cancer and cancer control. A few days ago my mind was changed. Mr. Bill Smith (whose picture you see here) came into my office. His story according to my way of thinking represents the necessity of cancer control more than all the scientific papers that could be written, the necessity for cancer education, and the necessity for a concerted effort on our behalf in establishing centers where these patients can be properly treated. Bill Smith is real, he is one of us, and his story is pathetic. Mr. Smith is one of our very necessary farmers. He is 54 years old, married and the father of three boys—one on foreign duty in the army, one 20 and one 17 His wife due to her physical impairments is unable to do much work.

Three years ago Mr. Smith went to a cancer quack in Meridian, who applied paste to a lesion on his forehead—from the history it is very doubtful if the lesion were malignant, but this quack *guaranteed* a cure, charged Mr. Smith $150.00 and the resultant scar is easily noted. Mr. Smith is red-headed and has a keratotic skin. A little effort on our part in educating this patient to use ordinary precautions would, no doubt, have prevented his keratosis. Last November Mr. Smith went to a quack in Purvis, Miss., paid him $75.00 almost to destroy the vision in one eye, remove the lower lid and take off the side of his face. The caustic penetrated through the cheek into the buccal mucosa—destroyed the parotid duct and part of the gland. He now has a salivary drainage through the right cheek. Now it cost Mr. Smith $225.00 to get into this shape and he has not been able to work since November. This is, as you know, the important season for farmers, harvesting and breaking season. A very conservative estimate on the money for hospital and surgeon fees alone will run over $700.000 to $800.00 with grafts, etc., and about six to eight months more of only part-time or no work, disregarding the physical discomfort.

We have had hundreds of Mr. Smiths in Mississippi, probably in Lauderdale County. If we allow these conditions to continue to exist, we are failing in our right to exist as physicians.

I am told by our state investigator there are records of several hundred cases in which the quack was brought into court, exonerated, was allowed to continue his practice and the newspaper advertising of the trial only helped him to be known better and furnished him more souls to destroy. I am told one county in south Mississippi had the board of supervisors allocate money for a quack to remove cancers. They were innocent by ignorance.

Why have we failed to eradicate these conditions, these quacks, in our state?

First, we as physicians haven't been interested in helping convict these criminals or we have been afraid of the repercussions it might cause. We should bow our heads in shame.

Second, ignorance on the part of the public has permitted them to thrive. Again our heads should be bowed in shame. How many of you knew of the work of the Women's Field Army for the Control of Cancer? I can tell you, this organization of women is ready and willing to preach the word of cancer control in a most effective manner if we as physicians would give a small nod of approval. Better if we would lend our active support.

I feel it is the duty of our State Health Department to furnish cancer education just as it has in tuberculosis, syphilis, diphtheria, etc. All of you are aware of the splendid results achieved in these undertakings. It seems now is the time to concentrate on a preventable and curable disease which ranks second in death rate. Cancer is a very costly disease, both to the patient and to the public. Remember Mr. Smith's story—the money has to come from some source. We pay in costs and unproductiveness. The people of Lauderdale County have for a long time realized the necessity of cancer control and furnishing aid for indigent cancer patients. Unfortunately, it requires some time for anticipation to realization, but in 1940 after considerable work by a small group, funds of such clinics were furnished by the Community Chest of Meridian. We have been in operation two years. In this time we have seen over 228 patients, fifty-eight per cent being patients with cancer. In the beginning many hopeless cancer patients were brought to our clinics. In the first year about eighteen, the second year about five. Today most cases seen are early cases in clinics and private. Educational talks accounted for the decrease. It takes many talks and newspaper articles. Our educational department has handed out over 8,000 pieces of literateure, over 10,000 people have seen the picture "Choose to Live," and over 50 radio talks have been made by laymen and doctors. We are now ready to distribute to high school students 5,000 educational pamphlets. Outside of the 23 hopeless patients, we have lost by death 14 patients in the two years of operation and one surgical fatality. Now you must realize these are not selected patients—they are taken as they come. These figures represent 95 possible cures. I have to use the word possible because of the five-year period which is required by the American Society for Control of Cancer before a cure can be counted. Our clinics are operated on a voluntary basis with no pay. Compensation is actual cost. Our physicians and nurses have been most generous and enthusiastic.

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*Read before the seventy-sixth annual session of the Mississippi State Medical Association, Section on Hygiene and Public Health.

Now we do not wish to convey the idea setup is a model for others to follow. It is far from that. We are not satisfied, we are constantly trying to improve our facilities. I am trying to urge you to use the resources and equipment you have to establish clinics throughout the state. One clinic cannot serve all the people adequately regardless of finances and equipment. I know there are many places where similar clinics could be established—Jackson, Hattiesburg, Greenville, Clarksdale, Oxford, Columbus, etc. The costs of establishing and equipping a clinic by one or two would be prohibitive but if several men would pool their equipment, surgical skill, and brain power, much could be accomplished at little individual cost. Use what you have—it is your duty.

DISCUSSION

DR. JOHN C. HENTHORNE (Jackson) — Dr. Stingily's very important paper has presented many things that we as physicians should consider seriously. In the first place he titles his paper "Cancer Control" and points out to us various methods whereby tragedies such as he has illustrated might be prevented. I know that Dr. Stingily has taken this subject of cancer control advisedly, knowing that cancer is not a preventable disease, except from the standpoint of allowing the disease to develop to a terribly deforming and destructive stage. Many of Dr. Stingily's illustrations have been cancers of the skin. It is unfortunate that many of these cancers are allowed to go neglected for a long period of time. It is unfortunate especially because the patients do not die. This is one of the tragedies of life. If cancer were a disease that would either allow the patient to get well or die soon, this tragedy of great ulcerating, vile-smelling lesions of the face might be averted, but that is not the case. Some of these cases that have been illustrated, I am sure, have suffered their cancers for two or three or four years or more.

Now what do we mean by cancer control since it is not a preventable disease? I believe Dr. Stingily is referring to early diagnosis and treatment. How can we control early diagnosis and treatment—correct treatment of cancer? One phase of the problem is the phase of medical education and postgraduate education, which is practically beyond our control except insofar as we as individuals are able to increase our own knowledge.

Another problem is public education. I do not believe that public education as regards cancer is any more important or any different from public education as regards any disease; in other words the thing that the Women's Field Army is telling the public is to "Go to your doctor early if you are sick," which of course applies to other things as well as to cancer. I think that physicians as a group should study this Women's Field Army better than they have done in the past. I believe that is a thing that is developing greatly at the present time. Being a pathologist I have often wondered what pathologists could contribute to the early diagnosis and treatment of cancer. Of course a good part of the pathologist's work is either to diagnose or rule out cancer, with surgical specimens, biopsies or resected whole lesions or whatever the surgeon chooses to submit to him. There are four pathologists in the state of Mississippi—Dr. Fenstermacher of Vicksburg, Dr. White of Greenville, Dr. Moore, professor of pathology at the University of Mississippi, and I. Several years ago we agreed to examine tissues for hospitals or groups on contract basis, so that the individual physician when he removed a piece of tissue would not have to think twice as to whether he should submit it to the pathologist or not. If there is a fee of $5.00 every time a specimen is submitted, many are dissected and not submitted for examination. It should really be a matter of routine that the doctors would not have to think twice but just send the specimen routinely. We agreed to this several years ago.

This may have been an important step toward the development of early diagnosis and correct treatment, and so far as I know also it is one of the best contributions that the pathologists as a group have been able to contribute to the program of so-called cancer control and early diagnosis and treatment. If, however, at any time in the future the pathologists as a group can contribute something to the general profession they will be glad to do so, and if any one could submit any suggestions along this line to the pathologists, I am sure we would consider them favorably, because we realize that cancer is a very important disease and any contribution we can make to cancer control we are very anxious to make.

Dr. J. C. Culley (Oxford)—This is a most interesting subject and one which I wish we had more time to discuss. I want to thank Dr. Stingily for his paper and to thank him for making it a practical one instead of a scientific one, because I believe that I would be a complete failure in trying to make a scientific discussion; on the other hand I feel I can make one practical suggestion which will point to the control of cancer. We can never have a truly scientific control of cancer until some scientist tells us the cause of cancer, for cancer in the human body is more or less like the Mississippi River when it is at flood stage. For years the engineers tried to stop these floods by building levees along the river. This was ineffectual, yet when a scientific engineer studied a little bit harder and went back to the source of that flood and recommended building dams on the tributary rivers, making reservoirs to control the source of the floods, science began to solve the problem of floods on the Mississippi River. The same thing is true in control of cancer. So long as the local authorities allow people to come into this state and collect $1,000.00 for a franchise to sell a concrete block which when put into the bottom of a churn and water taken off it as a drinking portion to cure tuberculosis and everything else in the almanac, and so long as the local authorities allow men to go around and practice medicine as Dr. Stingily has pointed out today, we will never get anywhere with cancer control. The State Board of Health reported to me that last year we had 2666 cases of cancer reported in this state. I think they told me that they had 1500 deaths last year—I believe they used the word "provisional" deaths. The formative years are those years when a child is in grade school and high school, and anything taught them sticks with them through life, so the practical thing about cancer control is its prevention by teaching school children and young people how to take care of themselves, how not to disturb small growths on their bodies and to have removed early any growth that shows up.

The last few years I do believe women patients are coming to us earlier. In the past old maids would come to me with their breasts eaten half off and their families did not know anything about it, but today I have young girls coming to me with a lump in their breasts, because they have read about it, so I say let's support the members of the Board of Health and get to the people this much needed information. Right now it is agitated that the teachers' salaries should be raised. Heaven knows they deserve a raise. We can not expect our teachers to teach our children thoroughly unless we pay them more, and by teaching our children is the best way to develop a system of the control and prevention of cancer in Mississippi.

Dr. W. H. Anderson (Booneville)—I only want to add one word. This subject is so big it challenges the best efforts of every practitioner in the country. One thing I have said before is that one of the most important things in relation to this problem is not what we don't know, but what we don't do. What we need in this state more than any one measure toward progress is for doctors to have offices suitable for the examination of patients and the aid of a good nurse. Examining the patient is of prime importance. If you have an office that is adequately equipped and a nurse who is competent, a thorough examination of every patient can be assured.

Dr. Fenstermacher (Vicksburg)—In addition to education of the public, we also face the problem of convicting or trying to convict medical quacks and charlatans. Of course that problem delves into politics and most medical men are notoriously poor politicians. The thing we must do, it seems, is to better these quacks at their own game.

Too often a patient with early cancer goes to the doctor for examination. A small skin tumor or breast tumor or cervical lesion may be found, and the patient is oftentimes told by the doctor, "That is nothing to worry about. Go home and forget all about the whole thing." You and I know very well the patient is not going to heed that advice. That patient will probably consult another physician and another, probably to be told the same thing, but eventually to end up in the hands of a quack. Then occurs the things we have seen in the pictures Dr. Stingily has shown us.

I believe the major challenge in cancer control is for the general practitioner to see these early cancer lesions and then do something about them. If he sees the early breast tumor or the lesion on the cervix or a skin tumor he can excise it and have a surgical diagnosis made. Among other things the patient demands and needs is service, and if we give the patient service we are going to keep her out of the hands of the medical quack and charlatan.

Dr. Hunt (Bangor, Maine)—I have just recently come from the state of Maine where my work has been radium and x-ray cancer practice since 1921. In this time we have started some clinics which have been very successful. There was opposition from the doctors to the starting of these clinics. The staff of our hospital were reluctant to start these clinics, largely because we had never had any out-patient clinics in Bangor. The Women's Field Army is the medium through which our tumor clinic was started, as well as one in Portland and, later three others in the state. These clinics are manned by a surgeon, or by the medical personnel, by the pathologist and sometimes, not always, by the roentgenologist. They have now quite a large list of cured cases. Of course much depends on the pathologist in handling cancer.

One thing which I have discovered or noted during the many years I have been treating cancer is the fact that a surgeon, often a country doctor, sometimes removes a small lump from the neck, doing the operation in his office, and fails to have that tissue examined. Then afterward it would be found that that was a secondary growth and that the primary growth was in the throat or possibly the larynx, sometimes in the mouth.

Another point which I think I might mention—and anything I say probably all of you know anyway—is the appearance of both syphilis and cancer in the same patient, especially in the mouth lesions and perhaps in the tongue lesions. The doctor sometimes sees an ulcer on the tongue, does a Wassermann, finds it positive, and then treats the patient for a number of months on the assumption that it is a lesion of syphilis. Of course if a biopsy had been done, he would have known that the lesion was cancer. It has long been thought that cancer in the syphilitic person is more difficult to cure than in a person without syphilis.

I want also to urge attention to precancerous lesions in the cervix, because it seems to me we might prevent cancer in that way and perhaps more frequently do a biopsy.

Dr. Underwood (Jackson)—Dr. Stingily is to be complimented and thanked for bringing this message before us in such a graphic fashion.

Dr. Culley struck the keynote of prevention when he mentioned the educational side. Without health education of course the whole field of preventive medicine can absolutely get nowhere. Cancer is no exception. The fact that we lost in this state approximately 1500 last year from cancer alone indicates that there is a problem that is not being solved very rapidly because the death rate is right along year by year about the same; in fact, it mounted for a good while due to better reporting, but the cancer is still there. I think we reported less than 1100 deaths from tuberculosis and right at 1500 from cancer last year. We are trying to do a lot about tuberculosis, but we are doing so little in the field of cancer control that we feel very apologetic about it.

I sat in on a session of the Mississippi legislature six years ago and saw a chiropractor of this state pass a bill through the house—thank God they did not get it through the senate—that shows a woeful lack of health education on the part of our representatives in the legislature—a terrible indictment against us all—the health department and the medical profession. I do not think we physicians talk to teachers when we come in contact with them in our offices. I don't think we discuss these things with members of the law-making body who happen to be patients and friends of ours. We think we are too busy. We are busy, but we of every county ought to take the time necessary to have that little chat with our candidates for the Mississippi legislature. A group of candidates are running for the senate and house now. Every one of them has a family physician, and if we would do some health education right now at the proper time, we would not have so much trouble with these quacks so far as the legislature is concerned. I understand there is a chiropractor in this state, I may be mistaken, who is running for the legislature from a certain county. I do know that he has been chairman of the county Democratic Executive Committee for a number of years—quite prominent politically in that county—and I dread to see what will happen if he is elected to the senate. Suppose he were elected and he made a number of friends there, there is no telling what might happen. Chiropractors are not physicians but they practice as physicians all the time; they have no recognition in this state at all. Some people think that they have a license to practice; they do not, they have no board of examiners. They just come in and we prosecute them when we can occasionally and seldom convict them on account of public opinion.

Now we can travel no further in getting rid of disease or in enforcing law than public opinion will permit us. Health education is the key to this whole problem. We try to discharge our duty, but I don't believe we realize as we should just how important it is to lose no opportunity to push health education. We do not have to do it over the radio or through the newspaper. The most effective way is person to person, friends we come in contact with and through them with others. Yellow fever, cholera, smallpox, diphtheria, and other diseases which have beset us have been tackled by the practicing physicians and the Board of Health joining hands, and we just simply brought those problems under control. Now cancer and its problems can be brought under control. Many said we could never do anything with venereal diseases. Fifteen to twenty-five years from now we will see that we have done a thorough job in bringing those diseases under control. We can do anything if we have the knowledge, and I believe we have enough knowledge if it is properly applied. Knowledge is power only when it is applied. We have enough now to bring cancer under control if we will apply the knowledge we already have.

Dr. Stingily (closing discussion)—I want to thank the doctors who have so kindly discussed my paper. Dr. Henthorne, maybe a better title for my paper would have been Cancer Death Control. In the 1500 deaths reported last year I have no doubt that if those patients had been educated properly, two-thirds of them could have been saved.

The slides that I have shown were of skin cancers, but I do not want to convey the idea that our clinic treats skin cancers only; we treat all, but I am just not good enough photographer to get pictures of the others. Perhaps in a few years I will be more expert. In our clinic eighty per cent of the patients are women and seventy-five per cent of those women have cancer of the uterus or breast, and that is one reason why the women are in a better position to preach cancer control. I do not think that we are anywhere near reporting the cancers in the state adequately. I think just a small fraction of them are reported. It is very important for us in doing any kind of work to know the number, it means more to give the patient's name, age, duration of disease, etc., to do good so far as records are concerned. There is a pamphlet which we hope it will be possible to distribute to each doctor in the state. We are using an Iowa State Board of Health symposium. The state of Maine perhaps has the best cancer control program of any state in the union, with multiple clinics throughout the state that were organized by a group that became the Women's Field Army. I thank you again.

Glaucoma – Yesterday and Today*

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IT HAS BEEN estimated that there exists between 150,000 and 300,000 cases of glaucoma in this country and that eight per cent of the blind people in our country are blind because of glaucoma. It has also been estimated that between one and two per cent of the patients who consult eye physicians have glaucoma of one type or another. While it is admitted that these figures are far from accurate because of variable factors, it seems to me that a disease so prevalent among our patients deserves more consideration than we, as a whole, give it. The incidence of cataract in any form is not nearly that high, but I dare say that a discussion of that subject would provoke ten-fold the enthusiasm and discussion that the subject glaucoma does in any gathering of eye physicians.

A review of the fundamentals involved is always necessary for a clear understanding of any subject under discussion unless we be led away by theories and fancies that make interesting discourse but add little to our total knowledge of the subject.

Glaucoma is the term used to describe the conditions that occur in the eye when the avenue of exit of the aqueous humor is occluded and a rise in the intra-ocular tension occurs—no matter what the cause.

MISCONCEPTIONS: There are a few misconceptions that should be cleared up before continuing too far with the discussion.

1. Race apparently plays no part in the occurrence of glaucoma.

2. Geography or climate plays no major role in its occurrence.

3. Sex plays little if any part in its occurrence. Statistically, its occurrence is about six to five in favor of the female.

4. While it is a disease of middle life, more prevalent in the sixth and seventh decade, it can occur at any age.

5. All glaucoma is not alike in cause and treatment, and it is absolutely necessary to make a differential diagnosis before beginning treatment. Too often I have heard the statement repeated "Glaucoma is glaucoma, and all cases should be treated with miotics." This is undoubtedly the result of the teaching efforts in medical schools trying to train the future general practitioner to distinguish between iritis and glaucoma and not to use atropine in glaucoma. However, when we become specialist we move out of the ranks of the general practitioner and we should know the exceptions to this rule.

6. Refractive errors play little part in the cause of glaucoma, although many people have been told that because they are hyperopic they may expect to develop glaucoma later in life. Statistically the occurrence is about the same in hyperopes, myopes, mixed astigmatics and emmetropes.

7. The majority of cases of glaucoma are not the acute incompensated type. The majority of cases are by far the chronic simple or compensated type that may go on to total blindness without any inflammatory symptoms.

8. It is also worthy of note that very little progress in glaucoma surgery has been made in the past thirty years. Fox, in January 1943, in reviewing the published reports on surgery for glaucoma, found that the choice of surgical procedure varied almost as much among the surgeons reporting as did their individual personalities.

CLASSIFICATION OF GLAUCOMA: On a pathological basis we classify glaucoma into two types—primary and secondary. Under primary we have the following types: 1) compensated or chronic simple type. 2) acute incompensated, or congestive. The cause of these types is not known; the theories as to the cause are legion. However, there still remains much research to be done.

The cause of secondary glaucoma is usually obvious but it is all too frequently confused with one of the primary types because of the lack of a complete history on the patient, or not making a complete examination. The usual causes of secondary glaucoma are: 1) septic corneal ulcers. These are found where the intratrabecular spaces in the iris angle are blocked with pus cells or hypopyon and exudate and where permanent obstruction occurs if the material becomes organized into connective tissue. This is one of the best arguments I know for the delimitating keratotomy of Harold Gifford, with repeated openings and evacuations of the anterior chamber in the treatment of hypopyon ulcers.

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*Read before the seventy-sixth annual session of the Mississippi State Medical Association, Section on Eye, Ear, Nose and Throat, May, 1943.

2) Acute and Chronic Iridocyclitis. The cells of inflammation and the migratory granules of pigment, liberated from the pigment epithelium, are found blocking the intratrabecular spaces, or filling the angle of the anterior chamber, blocking the escape of the aqueous. Or the formation of annular posterior synechia, blocking the flow of aqueous from the posterior to the anterior chamber causes a ballooning forward of the iris diaphragm which is called iris bombé and also blocks the iris angle by the formation of adhesions between the iris and the posterior surface of the cornea.

3) Contusions to the Globe. This is a variable factor because it does not always depend upon the severity of the injury. The blood and albuminous exudate that follow trauma undoubtedly cause some blocking of the drainage angle but it is my impression that there is much overlapping between this and unrecognized chronic simple glaucoma. This is a most important point, and should be remembered when examining and testifying in medico-legal cases that involve glaucoma secondary to trauma.

4) Swelling of the Crystalline Lens. In certain types of cataracts, particularly the nuclear sclerotic type, the cortex absorbs or retains a large amount of fluid, causing the lens to swell and push the iris forward, blocking the drainage angle. This is one of the principal reasons why it is wrong to neglect patients with early cataracts because they are not yet ready for surgery. I do not mean to imply that patients with early cataracts should be frightened into returning to your office weekly for observation and drops. Because the patients soon tire, both physically and financially, of too frequent visits, these patients should be seen four to six times yearly to have their intra-ocular tension taken and should be kept on pilocarpin drops of sufficient strength to control the intra-ocular tension until they are ready for operation. It has been my misfortune to see too many cases who have gone on to loss of light perception and projection while they were patiently waiting for their cataracts to ripen.

5) Glaucoma Capsulare. A rare but still well recognized condition is the accumulation of granules of lens capsule in the iris angle until they produce a blockage there, due to the contraction and relaxation of the pupil, acting as an abrasive and wearing off the anterior lens capsule. This is one of the many eye diseases that can not be diagnosed without the aid of the slit lamp and corneal microscope.

6) Glaucoma Secondary to Surgery and to Perforating Wounds of the Anterior Segment of the Eye. In cases of this kind where the anterior chamber is obliterated and does not reform for a long time, adhesions between the iris and posterior surface of the cornea form, causing a blocking of the iris angle. This to me is one of the strongest arguments for the use of corneal-scleral sutures in cataract surgery.

7) Glaucoma—Secondary to Thrombosis of the Central Retinal Vein.

8) Glaucoma Secondary to Tumors of the Uveal Tract. The toxicity of these tumors irritate the uveal tract and produce albuminous exudates that block the iris angle.

9) Congenital Glaucoma. Hydrophthalmos, where there is a congenital absence of the trabeculae and the canal of Schlemm and buphthalmus in which the iris angle is blocked by inflammatory processes in the eye of the foetus.

Diagnosis and Differential Diagnosis

The diagnosis of chronic simple or compensated glaucoma is the most difficult and probably the most frequently overlooked by the family physicians and non-medical practitioners because it is rarely accompanied by inflammatory changes in the eye.

1) The excavation of the optic disc with the overhang of the retinal vessels is usually the first symptom and this is usually picked up at a routine funduscopic examination of the eyes when a refraction is done or when looking for pathology in the vessels of a patient with hypertensive arterial disease.

2) Increase of the intra-ocular tension is next and this can be determined only with the aid of a tonometer in good working order. You should never rely upon taking the tension with your fingers in questionable cases. (And if you are in doubt about the condition of your tonometer there is now available a service for checking tonometers for accuracy. It should always be borne in mind that the tonometer is a delicate instrument that deserves meti-

culous care and it should never be left without the plunger and barrel as well as the base having been dried after each time the instrument is used.)

3) Field Studies. These are very important, particularly in watching the progress of the disease. Accurate records should be kept, and each time a field is taken conditions and circumstances should be as near the same as possible, that is, the light should be constant, the size of the test object and the distance of the patient's eye from the point of fixation should be the same. Otherwise it is impossible to evaluate field changes. I prefer the tangent screen, using small test objects at one meter's distance, because I have found it to be more accurate in picking up early changes. Others prefer the arc perimeter and I have no criticism of this method other than that already stated, but I do think both methods are too infrequently used.

The diagnosis of acute and chronic incompensated glaucoma is made by the inflammatory changes in the eye accompanied by increased intra-ocular tension, a steamy cornea, with a moderately dilated and fixed pupil and that typical smoky-greenish hue of the lens. To distinguish between this type of glaucoma and secondary glaucoma, particularly that of low grade uveal disease, is most difficult, but it is very necessary to distinguish between the two, for the treatments are entirely opposite. I have found the following procedure to be a great help in making a differential diagnosis between these two types. The cornea is usually so steamy due to edema that it is impossible to tell with the slit lamp if there are deposits on its posterior surface or if there are cells or a flare in the aqueous. If a ten per cent solution of sodium chloride is instilled in the eye, using two or three drops each time and repeating the procedure every five minutes for five or six times, usually by the end of that time the corneal edema has subsided so that the anterior segment can be examined with the slit lamp without difficulty. Since I have been using this method I have been seeing less acute incompensated glaucoma and more glaucoma secondary to uveal disease. It is also noteworthy that the tension in many cases is temporarily reduced by this method.

The disgnosis of secondary glaucoma other than that just described is not difficult, the diagnosis being made on the history, the increase in the intra-ocular tension and the presence of inflammatory products in the anterior chamber.

TREATMENT

Treatment can be divided into two types, medical and surgical. In most instances medical treatment is to be preferred, but in many cases surgery, although it is far from having reached the stage of perfection, is the only hope that one can offer many patients if good vision is to be preserved.

Medical treatment should be divided into two phases, local treatment of the eye and general care of the patient's health. We should always bear in mind that we are physicians first and specialists in eye diseases next and that treatment of the patient frequently is the key to success in treating an eye disease.

Pilocarpin is still the drug of choice in treating chronic simple or compensated glaucoma and in many of the other types it can be used to a great advantage. It may be used in strengths from ½ to 10 per cent. It is well tolerated by the eye and may be used over a long period of time without bad effect.

Eserine of physostigmine is a more powerful miotic and its effect lasts longer. It causes a contraction of the ciliary muscles and iris sphincter as does pilocarpin, but it begins almost immediately after instillation and reaches its maximum effect within thirty minutes. It is not as well tolerated as pilocarpin and should never be prescribed for prolonged use, for the conjunctiva will develop a sensitivity that will result in folliculosis and secondary infection which will interfere considerably with the treatment of the disease. It is best used as a supplement of pilocarpin when pilocarpin alone is not sufficient to reduce and keep the intra-ocular tension within normal limits. It is of extreme value in acute or incompensated glaucoma used in strengths of ⅕ to 1 per cent, and it frequently reduces the tension in these cases so that surgery can be done without the danger of spontaneous intra-ocular hemorrhage that goes with the sudden decompression of an eye with extremely high intra-ocular tension.

PROSTIGMINE. Used in 2½ or 5 per cent solution, it is also a valuable drug to use as a supplement to pilocarpin and eserine in both compensated and incompensated glaucoma. It has a pharmacological action similar to eserine except its action is more prolonged and it is much better tolerated by the conjunctiva when used over long periods of time. I cannot recommend it too highly in the treatment of glaucoma secondary to trauma to the eye.

ACETYLCHOLINE, available in the form of mecholyl, is a powerful miotic. It is effective immediately but its effect does not last as long as the other miotics. It is used in strengths from 5 to 20 per cent, either by instillations or retrobulbar injections. It produces some very disagreeable symptoms when used by injection. It increases the heart rate, lowers the blood pressure and increases markedly the activity of the sweat and the other secretory glands of the gastro-intestinal tract, the most annoying of which may be the excessive flow of saliva. I class it as an emergency drug and it should be used only in acute incompensated glaucoma. When it has lowered the tension sufficiently, one of the other miotics can be substituted and used to maintain the tension at a lower level.

Dr. Gradle has recommended its use alternately with 5 per cent prostigmin in incompensated acute glaucoma. I have had no experience with using it in this way, although Dr. Gradle reports considerable success in using it in this manner.

DORYL is another member of the choline group which has been recommended for use in compensated cases, particularly by O'Brien and his associates at the University of Iowa. It is used in a 1 per cent solution as instillation. It usually produces rather severe ciliary pain following its use. It should always be borne in mind that in using any of the choline derivatives if general symptoms occur that border on prostration, the effect of the drug may be immediately stopped by the hypodermic injection of 1/100 gr. of atropine sulphate.

HISTAMINE and amine-glaucosan are powerful miotics that can be used in acute glaucoma. Their use is not widespread and I have had no experience with either. It has been recommended that since they cause pain on instillation they should be preceded by pontocaine anesthesia.

Strong adrenalin, available in 1-100 solution, or 1 to 2 per cent epinephrine bitartrate ointments and 10 per cent neo-synephrine, is a valuable drug in the treatment of glaucoma but must be used with discretion. It should never be used in the acute incompensated type. It is a strong sympathetic stimulator. It dilates the pupil and contracts the arterioles, allowing less blood to enter the eye and lowering the tension, but it should be remembered that it is always followed by a secondary dilatation of the vessels and engorgement causing a subsequent rise in intra-ocular tension. It is probably best suited for the treatment of secondary glaucoma due to uveal disease where it is desirable to break posterior synechia, or in glaucoma secondary to adhesions that have followed surgery or accident in which there has been a delayed formation of the anterior chamber.

It has been recommended to be used as a substitute for miotics in compensated glaucoma when things are not going well. It will serve to keep the intra-ocular tension down for a while and then when the miotics are resumed they seem to have more effect, a phenomenon that has not been satisfactorily explained. It may also be used to dilate the pupil for a detailed fundus study and a study of the lens capsule when mydriatics are frankly contraindicated.

The general care of the glaucoma patient as outlined by Duke-Elder is my method of choice.

1. Care of Cardiovascular-Renal System. An increase in blood pressure should be controlled by rest, sedation and vasodilators when possible. Habits of rest and sleep should be regulated and the use of stimulants, such as tobacco and coffee and the excessive use of alcohol, avoided.

2. Syphilis should be ruled out, or adequately treated.

3. Constipation should be relieved and by a dietary routine if possible.

4. Foci of infection should be eliminated. This does not mean sacrificing good teeth, opening normal sinuses, the removal of all tonsils, appendices and gallbladders and the other surgical sins that are committed in the name of clearing up focal infection.

5. Endocrine dysfunction, particularly that of the thyroid gland, should be looked after by one competent to advise.

The treatment of secondary glaucoma complicating uveal disease is a subject within itself about which much has been said, but the treatment should be directed toward the uveal disease itself and the intra-ocular tension controlled by strong adrenalin or 10 per cent sodium chloride solution as previously described. And if this is not sufficient, repeated paracentesis should be resorted to, to reduce the intra-ocular tension. Miotics have no place in the treatment of this type of secondary glaucoma. A treatment that I have found extremely helpful in intractable cases is artificial fever therapy. Unfortunately this treatment is expensive and not readily available in many communities. The coöperation of Dr. Knight, in charge of fever therapy at the U. S. Marine Hospital at New Orleans, has enabled me to have a few cases treated by this method, all with very satisfactory results.

The effect of medical treatment of glaucoma can only be evaluated by constant observation and the progress can only be judged by considering these several factors: 1) visual acuity, 2) the intra-ocular tension, 3) the visual field changes.

All should be considered and rechecked at frequent intervals. The vision and tension should be taken at each visit and the fields checked as often as indicated, but never less frequently than each three months, even in a case that appears to be under control, as indicated by vision and intra-ocular tension.

THE SURGICAL TREATMENT OF GLAUCOMA

Surgery is indicated in chronic simple or compensated glaucoma where there is a progressive loss of field in spite of medical treatment. It should be done early before central vision has become affected. The Elliott trephine or one of the iris inclusion operations are my operations of choice. This usually varies with the skill of the individual surgeon and the success that he has had with the different procedures. In young people where the life expectancy is longer and the danger of infection is greater, I prefer one of the iris inclusion operations. In older people I prefer the Elliot trephine, making my dissection of the conjunctiva and capsule as advised by Benedict. If I were you and using another method with success, I would not change, in the light of our present knowledge. The basal iridectomy in acute incompensated glaucoma is still the treatment of choice. My only suggestion is that you are more apt to make your iridectomy basal if you make your incision with a Lunsgard knife rather than with a keratone.

Surgery in secondary glaucoma plays a part but not the same role that it does in the other types. Delimiting keratotomy in hypopyon ulcer with secondary glaucoma has already been mentioned, as has paracentesis in glaucoma complicating uveal disease. Surgery in glaucoma secondary to contusions of the globe is to be avoided and since we have had prostigmine I am glad to say that medical treatment suffices in most cases. In glaucoma secondary to cataracts, either due to a swelling of the lens or an exfoliation of the capsule, when uncontrolled medically, then a basal iridectomy preliminary to cataract extraction usually suffices. Glaucoma secondary to surgery and perforating injuries of the globe are best treated surgically by cyclodialysis, always attempting to free the adhesions between the iris and posterior surface of the cornea whenever possible.

Glaucoma secondary to thrombosis of the central retinal vein can only be relieved surgically by cylodiathermy in my experience. Perforations of the globe should be made with the diathermy needle at the time of operation for the purpose of immediate decompression. These perforations should be made just posterior to the main area of cauterization, through the pars pena of the ciliary body.

Surgery for glaucoma secondary to tumors of the uveal tract resolves itself down to enucleation so that the tumor does not have the chance to metastasize and destroy the individual, also a pathological section of the eye and the tumor can be made. Otherwise neither a diagnosis nor a prognosis can be made until it is too late.

The same may be said of surgery for the congenital types of glaucoma. Enucleation with the implantation of gold, glass, lucite, cartilage or bone into Tenon's capsule so that the orbit will continue to develop, is the only surgical treatment recommended for these conditions. It should not be resorted to until all vision has been lost.

CONCLUSIONS

A large subject has been presented in a short time. No new theories as to cause have been advanced; no startling discussions as to treatment have been recommended, but it is my hope that a review of this devastating disease that causes so much blindness will rearouse interest in those who have become satisfied with their treatment of glaucoma, and that it will give new hope to those who have become discouraged and consider the treatment of glaucoma a hopeless task.

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Some Cardiac Conditions Met in General Practice*

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SMITHVILLE, MISSISSIPPI

THE AUGUST 10, 1942, edition of the *Commercial Appeal*, carried an article entitled: "HEART DISEASE LEADS IN MISSISSIPPI DEATHS."

In the ten leading causes of death, heart disease continued in first place, causing one in every six deaths, as against one in ten in 1932. This is an increase of forty per cent in ten years.

Our country is going through a critical age. We have studied the diseases of some organs of the body, and we have lessened suffering and lowered the death rate due to their abnormalities. In 1932 tuberculosis placed second as a cause of death; now it ranks sixth. Pneumonia had fourth place ten years ago. It has descended to seventh now.

Why, then, does heart disease continue to rank first in the cause of death?

We know that large masses of varicose veins cause dizziness, shortness of breath, fatigue, fainting, and even pain around the heart by pooling the blood and decreasing its flow through the heart's own arteries. Yet, nearly all old people have large masses of varicose veins, and live without surgery or even bandage support.

It is well to remember that many heart symptoms and much heart pathology are produced by interference with the normal blood supply through the coronary arteries.

ANGINA PECTORIS:

Angina pectoris is a paroxysmal pain caused by narrowing of the coronary arteries by spasm or at times by thrombi. It is an agonizing and very distressing condition of the heart due to lack of blood supply to the myocardium. On exertion, the heart's muscle calls for more blood or nourishment than the constricted blood vessels can supply. The result is severe substernal pain radiating to the left side, and sometimes up into the neck and down the arm. The patient tries to fix himself in a still position and complains of pressing, squeezing, gripping, or fullness over his chest. The chest feels as the legs do when corded tightly. The victim is pale, dizzy, and short of breath, and believes that, if he is not soon relieved, he will die.

The patient is compelled to stop all activity, for rest is the best treatment. He should stop all exercise to prevent recurrence of the distress. Over-eating, worry, hurry, or excitement may bring on an attack. The heart's muscle needs more blood or food, and our problem is to supply this demand.

Drugs seem to have very little effect. The patient is either better or dead before we get to him. Amyl nitrate or glyceryl trinitrate may give some relief. Nitroglycerin does good in many cases if given early. Sometimes we can prevent an attack with one of the nitrates. Rest, however, will do more than all drugs combined. As long as the patient is at rest, the heart receives enough blood to function normally, but exercise calls for more blood, bringing on a spasm.

Digitalis may help, if the case is one of long standing and the heart's muscle is weak, or if pulmonary oedema or oedema of the feet and legs has developed. These conditions are seen only in prolonged cases. I have found digitalis, however, to be of comparatively little value.

Case A. K. D. L., age 53. School teacher and farmer. In May, 1940, he had an attack of severe pain over his gallbladder lasting two or three days. It left him sore and distended with gas. The soreness extended all over his chest. He made a complete recovery.

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*Read at the quarterly meeting of the Northeast Mississippi Medical Association, Amory, Miss., Sept. 8, 1942.

March 1941. He told his wife as he went to school that he had a pain in his chest. She told him it was very likely gas, but he didn't think so. He stood out in the yard most of the day because of smothering, became very weak, and went home after school to lie down because of weakness. He ate no supper and early in the night a very severe pain struck him in left chest and around the lower end of the sternum. I gave half grain morphine, which did not relieve him, and repeated with another half grain; this eased him very well. Ammonia and nitroglycerin had little effect. After an hour he was resting very well and I went home. He died before ten o'clock and I diagnosed his condition as angina pectoris.

CORONARY THROMBOSIS:

In coronary thrombosis the pain is very severe, much worse and longer lasting than that in angina pectoris. Sometimes the pain is stationary, but generally it is movable. The patient is in an extreme shock. He is cyanotic, covered with cold, clammy perspiration and must be kept warm. There is usually nausea and vomiting, often accompanied with fever. The patient looks and is very sick. The loss of fluids should be replaced by mouth if the patient can retain it; if not, by hypodermoclysis. Fifty cc. of fifty per cent glucose intravenously may help.

The severe pain should be relieved by large doses of morphine, repeated as often as needed. Caffeine and sodium benzoate given as stimulants help some cases. Quinidine sulphate, three grains twice a day, may help prevent a recurrence. Ventricular fibrillation is common and is usually the result of ventricular tachycardia. Emboli from dislodged portions of the thrombus are common and may lodge in any portion of the body. I have found digitalis of no worth, preferring to keep the patient perfectly quiet, not allowing him even to raise his head. It is not wise to disturb the patient with frequent examinations.

Case B. May 1942. Mrs. T. L. C. Age 30, housewife. Two children, baby two months old. Labor normal.

Family history—negative.

Past history — complained with heart at times; nothing definite.

Present complaint—severe pain in chest.

I examined pelvis and abdomen. She placed her arm across chest at lower ribs and said, "You are losing time; all my trouble is above here."

She was cyanotic, short of breath, and covered with cold, clammy perspiration. Her ears, fingers, and toes were white and waxy, like forms in show windows. Her pupils were wide open, pulse was 160 per minute; respiration was fast and shallow. She complained of severe pain on left of sternum

Baumanometer would not register a sound.

I gave her a small dose of morphine, hypodermatically, and caffeine and sodium benzoate and she gradually improved. Digitalis did harm, although she had paroxysmal tachycardia.

She improved slowly for five days and had a second attack, which was just as severe. The pain lasted all the time between the attacks, and moved about over the left chest.

Two weeks later she developed a severe pain in the left hip, and this gradually extended down the left leg. There was phlebitis due to embolus from the left heart. The leg gave trouble for several weeks. Today she looks well and says she feels better than in a long time.

Absolute rest in bed was the only treatment of value.

CARDIAC ASTHMA:

Cardiac asthma is caused by spasm of the coronary arteries. The left ventricle fails for lack of nourishment. The weakened left ventricle allows an accumulation of blood in the pulmonary vessels during sleep in the recumbent position. Coughing, noise, or a bad dream may bring on an attack. The patient awakes excited and is compelled to sit up or stand on the floor in order to breathe. This increases the vital capacity of his heart and less blood passes through the heart when the patient is in the upright position.

The best treatment is the administration of morphine, requiring the patient to sit upright

Morphine lessens anxiety and depresses the respiratory and vasomotor center in the medulla. Fifty per cent dextrose intravenously injected diminishes the bronchial spasm. Pulmonary oedema is helped with digitalis.

The first call I made was to see an old lady with cardiac asthma. When I walked in she was wheezing, frightened, and short of breath, laboring to get air into her lungs, then working to get it out. She looked cyanotic and distressed, and was covered with cold, clammy perspiration. I gave her a good dose of morphine hypodermatically. She was soon able to lie down and sleep.

There are several other coronary artery diseases which I have not mentioned, but the important thing that I stress is the fact that heart disease killed forty per cent more people during the ten years just ended than it did the decade before. Are we doctors to blame? Prevention is the remedy. There is no cure, once the disease is well established.

A patient complaining of "something wrong with his heart" is entitled to careful consideration and thorough examination. And should not be turned away without examination, with the assurance that his heart is all right.

A man with a normal heart should not know he has one. Yet, many a man has died from heart disease never knowing that anything is wrong with his heart. Thus, it behooves us to be on the alert for heart disease in every patient we examine for any cause.

Does he have dyspnoea on exertion, attacks of asthma, cyanosis, pulmonary oedema, distention of the veins, anasarca, hydrothorax, ascites, or pulsation in the veins?

Percuss the size of the heart, and x-ray if in doubt.

Divide cardiac cases into two classes for examination—(1) those under forty years of age, and (2) those over forty years of age.

In those under forty, look for rheumatism, congenital malformations, and after-effects of such infectious diseases as scarlet fever, measles, and diphtheria.

In those over forty, look for arteriosclerosis, hypertension, and syphilis.

Arteriosclerosis and hypertension are found mainly in the white race, and syphilis in the negro. Many of these conditions run in families; therefore, get a complete family history.

Rheumatism causes most of the heart diseases in people under forty. It occurs in sixty per cent of children who have hemolytic streptococcic infection of the upper air passages. White children are three times as susceptible as negro children.

The treatment is to prevent hemolytic streptococcic infections of the tonsils, pharynx, and sinuses. When infection of these areas does occur, give prompt and thorough treatment. After inflammation of the endocardium myocardium, and pericardium develops, it is too late for curative treatment. Rest will improve the condition.

Congenital lesions make up ten per cent of heart lesions in children, and these are hard to diagnose. Cyanosis and clubbed fingers are signs in older children.

Forty-five per cent of all doctors who die, die of heart disease. Why are we so unconcerned about a disease which has the highest mortality rate in our own profession? Anxiety, worry, and fatigue are its commonest causes. We are living in strenuous, anxious days. Heart disease will increase one hundred per cent or even more. We all have a duty to perform. Many doctors have gone to the front and not all will return. Certainly our duty is to give the very best care to those who remain—to those sick in body, to those who are torn in mind. We must instruct our clientele about the danger of fatigue and worry.

We have been too careless. It's time to wake up and do something. We can stop, or at least, reduce, this serious condition, by careful and thorough examination of all our patients.

The treatment is prevention. After development, treatment is only palliative. Complete rest of body and mind does wonders. Drugs may or may not give temporary relief.

In the next decade, with tireless effort at prevention and careful treatment after development, we can change the statement, "heart disease leads in Mississippi deaths."

Anent the New Wagner Bill

FELIX J. UNDERWOOD
JACKSON, MISS.

On June 3, 1943, Senator Wagner (for himself and Senator Murray) introduced a bill, S. 1161 (an identical replica of H. R. 2861 was introduced in the House on the same day by Congressman Dingell), extending the provisions of the Social Security Act and including a section, Title 9, setting up a system of "Federal Medical, Hospitalization, and Related Benefits."

This bill, if enacted, will effect revolutionary change in the practice of medicine and put the federal government in virtual control of the practice of medicine and of the practitioners of medicine and also of hospitals.

Every employed person in the country and his dependents would be eligible for the medical benefits of the system. This means, of course, that only the relatively small segment of the population who are self-employers and do not elect to be voluntary participants would remain as potential patients to be cared for in accordance with the present method of rendering medical care. It also means, except for a very few physicians, that the profession in order to obtain a livelihood would be obliged to become a cog in the wheel of the system.

Under the provisions of the bill payments to general practitioners for services shall be made on (a) a fee basis, (b) a per capita basis, (c) a salary basis, and (d) a combination or modification of these bases as the Surgeon General of the United States Public Health Service may approve. Specialists designated by the Surgeon General shall be "entitled to the compensation provided for specialists. . . . The services of specialists shall ordinarily be available only upon the advice of the general practitioner."

The administrator of the program shall be the Surgeon General of the United States Public Health Service, who, under the bill has virtually dictatorial powers. It is true that the Surgeon General of the Public Health Service will have a "National Advisory Medical and Hospital Council (referred to as the 'Council')." Your attention is directed to the extracts dealing with the composition and appointment of this council. It will be noted that the appointments are made by the Surgeon General. There shall be sixteen members "selected from panels of names submitted by the professional and other agencies and organizations concerned with medical services and from among other persons, agencies, or organizations informed on the need for or provision of medical, hospital, or related services and benefits." There is nothing in this section which states that any of these sixteen members shall be physicians.

To support the purpose embodied in the whole bill, which is to establish a "unified national social insurance system" the employer and the employee shall each pay six per cent of the amount of the employee's salary or wages.

Under this provision, all physicians in private practice shall pay a social insurance contribution equal to seven per cent of the market value of services in self-employment up to $3,000. This means that physicians earning $3,000 or more in any calendar year will pay seven per cent of the $3,000, or $210. If their earnings are less than $3,000 it will be seven per cent of whatever amount they have earned.

The public must be served, it is true. In my considered judgment, this section of the bill introduced by Senator Wagner and Murray and Representative Dingell is both unwise and unnecessary. It is my honest belief that the setting up of such a system of compulsory medical care would be detrimental to public health and welfare and would result in a lowered quality of medical care throughout the country.

This system if enforced (and I do not take it very seriously because there are so many deductions already that doubtless Congress will hesitate to impose additional ones at this time) will be destructive of the time honored existing method of medical practices under which have been developed the highest standards of medical care and public health of any large country of the world.

This bill I think has been introduced in the turmoil of war without consultation with the official representatives of health and medical professions and related agencies.

I have been president-elect of the American Public Health Association for almost a year and no one consulted me relative to such legislation.

It is my feeling that this is an effort to enforce upon the United States Public Health Service and the Surgeon General of the United States Public Health Service the administration of a law which I do not believe they want any more than the State Board of Health of Mississippi desired that all the charity hospitals of the state, including the mental disease hospitals, be turned over to the State Board of Health to administer, as advocated by several splendid Mississippi lawmakers during the 1942 session of the Mississippi legislature.

I am sure that the leadership in medicine and public health of this country found out about this bill only after its introduction by its authors.

Personally, I intend to discuss the bill with our Mississippi senators and congressmen to the end that everything possible be done to defeat this section of Senator Wagner's bill.

I am also of the opinion that neither the president and secretary of the American Medical Association nor any other officers of that organization, and neither the president and secretary of the American Public Health Association nor any other officers of that organization were consulted at all during the preparation of this bill.

I seriously doubt if the Surgeon General or any member of his staff was consulted by the authors of the bill.

However, it is not too late for physicians and health workers in all of the states and territories to give their members of Congress the benefit of their thinking relative to this legislation. The physicians of this state have been unselfish and patriotic in carrying out necessary programs in venereal disease control and tuberculosis control which constitute sound public health practices. Most of the hospitals of the state and the majority of the physicians of the state are coöperating in taking care of the wives and infants of privates, corporals, and plain sergeants who are members of the fighting forces of this country and receiving a rate of pay that justifies hospitals and physicians alike to make financial sacrifices, when necessary, for them. The coöperation of the medical profession was expected and received without stint in the previously named programs.

As a physician, and as public health man serving as State Health Officer and responsible by law for the protection of the public health of this state, I feel that it is my duty to point out the dangers and extreme undesirability of Title 9 of Senate Bill 1161 (H.R. 2861) which proposes to set up in this country a system of federal medical, hospitalization, and related benefits.

Mighty influences are at work to effect epochal changes in the complexion of medical practice. We are bravely trying to face realistically the trends in national and international social and economic structure—trends directionally signaled by already established sign posts such as social security, sick benefits, unemployment insurance, and old-age compensation.

That we as physicians and health officials are intimately involved with these plans is clearly demonstrated by certain recommendations that the government in coöperation with the medical profession take action to enable the individual to budget medical expenses over a reasonable period and contribute toward the cost of care according to his ability, and that the federal aid be extended toward developing an adequate system of regional and local hospitals. maternal and child care, and other measures to insure adequate health care for all, regardless of place of residence or income status.

It is apparent to us all, I think, that the old status of medical practice will be considerably modified. We consider this in line with essential progress, but Title 9 of the new Wagner bill is far too revolutionary for the present day.

It would seem that this system has been largely copied from the British system; much of the British system inaugurated by Prime Minister David Lloyd George was copied from the Bismarck system in Germany back in 1870.

It is about time that we become more original in our thinking in this country and quit being copy cats of countries which allowed so little freedom in the years past that our forefathers were forced to flee from their shores to preserve for themselves and their descendants liberty of thought, speech and action—and in many instances their very lives!

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Everything else being equal, we trust you are buying from the men and from the houses who advertise with us in the journal. This will not cost you more and it will help the journal a lot in time of need. Thank you.

If you know a bit of news about our doctors in the service, please pass it on to us. We want to keep up with them the best we can, for all of us are interested in them. We want them to know that we are thinking of them and that we appreciate their efforts and the advancement they are making.

We are glad to note that Dr. Green of Tupelo is doing fine work on the battle front. He is head of a surgery unit in North Africa.

Our comrades in general practice continue to fall at an alarming rate. The pressure is simply too much. Doctors should give themselves every chance possible, not just to live for themselves and their families, but to serve the public. Take a little time to explain to the people the situation. People are nervous, impatient, and are pushed for time. The doctor and his clientele should come and reason together.

We deeply regret the going of Dr. Brown of Iuka. He was a very fine type of the general practitioner, who served long and well. He was true to the people as a doctor and they loved him. Few doctors possess more medical integrity than did Dr. Brown, and he was a man of unusual native ability. No one ever had a truer or a more delightful friend that Dr. Bob Brown. He fell in the line of duty just as truly as a man does on the field of battle. Not only a fine doctor from a medical standpoint, he had also a vision of building total health assets as a wise health counselor.

Dr. Brown entered into the pleasures and joys and heartaches of his clientele. He extended to them his sincere sympathy in time of trouble and he laughed with them in their gladness. The people came to him to talk and to reason about their affairs. He was a fine judge of human nature and human values. Trap shooting was his hobby. He loved the sport and none but the best could compete with him. This was his rest and his joy and he no doubt lived longer by having this interest. We regret his going and offer our deepest sympathy to the family, but we cherish the pleasure and profit of having claimed Dr. R. J. Brown as a friend.

You will note the discussion of the Wagner Bill by Dr. Felix Underwood in this issue of the journal. His views are sound, in our opinion. Politics and science don't go so well together. It has been free individual thinking that has unfolded the Divine mysteries of science to such great benefit to the human race. The time is not propitious for a radical change in the practice of medicine in this country. The medical profession might have allowed the humanitarian spirit to become somewhat overshadowed by other interests, nevertheless, its inestimable contribution warrants consultation on a proposition like the Wagner bill, which calls for such an about-face change in health security from what we have had. The United States has certainly taken the lead in efficient medical service the world over for the last decade, and we have had less state medicine than many other nations. Wherever state medicine has been the order it has had the tendency to cheapen medical service and to lower its efficiency.

Dr. Underwood also discusses maternity care for the wives of enlisted men. It does seem that we could find common ground with the federal government on the plan and be glad to do so, both doctors and hospitals concurring.

At a recent meeting of the house of delegates of the American Medical Association a new council was created on medical service and public relations. The formation of this council seems to have been inspired by remarks by the outgoing president, Dr. Fred Rankin, brigadier general and chief consulting surgeon of the army. He warned the assembly that they must "face realistically" the trends in the national and international social and economic structures, such as social security, sick benefits, unemployment insurance and old age compensation.

> "That mighty influences are at work," Dr. Rankin said, "to effect epochal changes in the complexion of medical practice is incontrovertible. We must face realistically the trends in the national and international social and economic structure—trends directionally signaled by already established sign posts such as social security benefits, unemployment insurance and old-age compensation.
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> "That we are intimately involved with these plans is clearly demonstrated by certain recommendations that the government, in coöperation with the medical profession, take action to enable the individual to budget medical expenses over a reasonable period."

We believe the formation of this council is timely and should render a splendid service. We are sure there are some very able men on this council. Dr. W. S. Leathers is certainly as good as could be found. But it would be mighty good to add to this committee some good practitioners out on Yellow Rabbit and Vinegar Bend and some men from the small towns who have known these social and economic problems for a quarter to half a century and who have been trying to do something about the situation. It is good human economy for all the people to have adequate medical care. State medicine will not solve the problem. All the medical profession working together with the aid of the government can do much toward its solution. Medical service and medical science need to be correlated, need to be hitched up to human affairs in a big, broad, and active manner.

A few nights ago, after a hard downpour someone tapped at my front door shortly after I had retired after a busy day's work. Some ragged, wet and ignorant old man wanted me to go and see his wife whom he described as "mighty porely." I almost refused the poor and penniless old man. My weary bones and the warm bed cried loudly against the trip. The long trip, the bad roads, the wet, cold weather—each loomed up in my mind as obstacles too serious to tackle that night. But the pitiful tone of his voice "Doctor, she is mighty porely" overcame the temporary surrender to ease and rest and I grudgingly went. After some time I got to a hut that would almost have shamed an animal and I rendered medical services to the best of my ability Before starting on the arduous return trip I struck up a conversation with the patient. I learned that this old lady who almost failed to get a physician to treat her for a case of pneumonia brought on by exposure, had lost one son in action on the Solomons and another son was reported as missing following the fall of Corregidor and is probably in a Japanese prison camp.

This old woman has never been presented with a bill for that night's services, nor will she be.

"He has not served who gathers gold
Nor has he served, whose life is told
In selfish battles he has won
Or deeds of skill that he has done.

But he has served who now and then
has helped along his fellowmen."

The above is an excerpt from an address by Dr. L. H. McDaniel of Tyronza, Arkansas, read before the Northeast Arkansas Medical Society a few weeks ago. It has the right ring to it. The urge of Christian duty responds to service. May we all have the spirit expressed above. Let us never betray the trust committed to us; let us never be false to duty. Dr. L. H. McDaniel will not fail.

I have long believed and have frequently said that the diagnosis of pneumonia is too loosely made and that the term pneumonia should be confined to sickness caused by the pneumococci. No authority, so far as I know, has agreed with me on this point. At present we hear and read much about "atypical pneumonia" and "virus pneumonia." I am wondering if we do not use these terms as a cloak for ignorance? Why not admit that we are dealing with a condition about which we know little with regard to its etiology and true nature? We are hearing much about these atypical or virus pneumonias since this war began. If we study these reports we discover that there is little in common between these cases and true pneumonias. We find that there is absence of the known causative organism—the symptom—etiology and course are entirely different and fatalities rarely occur. There seems to be no effective treatment known; the sulfonamides seem to be of no benefit whatever. And I am certain that these drugs are either beneficial or harmful whenever used. I wonder if we have not been dealing with these cases longer than we know and I wonder if this fact does not account for the low mortality rate claimed by some doctors in the treatment of pneumonia? We hear much about "streptococcal sore throat." Since many of these cases of so-called pneumonias begin with sore throat or develop it at some stage of the sickness, may it not account for the loose diagnosis of "strep throat?" How fortunate for both patient and physician that most sickness ends in recovery with or without proper treatment. Again, we depend on the x-ray and microscope for our diagnoses, and yet we are often misled by them. We are told that it is difficult to differentiate between films made in these cases and those in tuberculosis in certain stages.

It is high time for all doctors to wake up and become interested in what is going on in Washington concerning medicine. How many of us understand just what effect Senate Bill 1161 will have upon the practice of medicine in the event it becomes law? The private practice of medicine will be a thing of the past the moment this bill becomes effective. Medicine will be completely under political control and the worst part of the matter is, it will be under the control of one man. It is true there will be a council of sixteen members but these will be appointed by one man, the surgeon general of the Public Health Service. This bill provides that considerably more than three billion dollars shall be put at the disposal of this man. In addition, it provides that all medical colleges shall be "taken over" and run by this one man and his appointed council. It also provides that every medical student shall be subsidized to the amount of seven hundred dollars per year. It also provides that this one man shall determine just how many patients each doctor, who bends the knee to him, shall be allowed to treat. It is estimated that about one hundred and ten million Americans will be entitled to free medicine and free hospitalization (such as it will be) under the provisions of this bill. The other thirty million have the privilege of looking after their own health by selecting and paying their own doctor. I wonder how many doctors will be able and willing to restrict their work to these thirty million free Americans? This bill is quietly sleeping now while a disturbed and politically-minded Congress is on a fishing spree for votes.

Now is the time for doctors to get busy and assert themselves, or they may, forever, hold their peace and lie supinely upon their backs. Is it true that this war is really being fought to preserve the American way of life? If so, shall we permit a crazed and disorganized Congress to destroy one of the most vital elements that go to constitute this American way?

—G. S. B.

News and Comments

MATERNITY CARE FOR THE WIVES OF ENLISTED MEN

The plans being put into effect to render maternity care to the wives of enlisted men of stated rank and also for the treatment of their infants is very worthy and should receive the full sanction and coöperation of both the hospitals and the medical profession.

Those who have served in the armed forces in this or former wars know that soldiers are fully as apprehensive in regard to the welfare of those left behind as their families are about them.

This assistance to the soldiers' wives and infants is, therefore, quite apt to give comfort and reassurance both at home and abroad.

I wish the government had paid direct to the soldier and his wife the amount of money necessary to provide good medical and hospital care and let them select the physician and hospital and pay them, but the government did not see fit to handle the matter in this manner. It may be that some of those in Congress who had to do with framing the legislation might have thought that the soldier or his wife would fritter away the money and that the physician and hospital would have to accept many of these cases as charity cases. Be that as it may, when the bill passed, the money was made available and state and territorial health agencies were made responsible for the administering of the bill, with physicians and hospitals to participate or not according to their wishes.

Most hospitals have already provided care for women of similar means in civil life.

There has been some misunderstanding on the part of a few physicians and hospitals in the state. Congress passed this appropriation by unanimous vote and the soldiers and their wives were notified that this financial assistance was available in all of the states and territories.

The State Board of Health agreed to administer the program only on the basis that it would be purely voluntary on the part of physicians and hospitals as to whether they participated.

This is a federal appropriation and a federal plan—not a State Board of Health plan. The State Board of Health got the federal agency to reduce the number of records and reports required under the provisions of the plan. It would be desirable to have further reductions in these records and reporting forms such as are now being used in order that a proper accounting may be made to Congress relative to the financial budget and the medical and hospital program carried out.

FELIX J. UNDERWOOD

A. M. A. FORMS NEW GROUP ON MEDICAL CARE

Dr. Herman Louis Kretschmer, nationally known Chicago urologist, was named president-elect of the American Medical Association at the close of a three-day meeting of the association's house of delegates.

Dr. Kretschmer, who is 64, is the first association president from Chicago since the late Dr. Malcolm L. Harris was elected to that office in 1929. He will assume the presidency next year. Dr. Kretschmer was treasurer of the A.M.A. for ten years.

NEW COUNCIL CREATED

The house of delegates created a new council on medical service and public relations. Its purpose is to plan for better medical care throughout the nation.

The council will study medical plans of all sorts and suggest policies to state and county medical societies.

Members of the new committee include the president-elect, past president, secretary, a member of the board of trustees and Dr. Louis H. Bauer, Hemstead, N. Y., Dr. John H. Fitzgibbon, Portland, Ore.; Dr. Alfred W. Adson Rochester, Minn.; Dr. James R. McCormick, Toledo, Ohio, and Dr. W. S. Leathers, Nashville, Tenn.

The new council was named only a short time after Dr. Fred W. Rankin, the retiring president, called for some sort of action which would enable people to budget their medical expenses and pay according to their ability.

* * * *

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H. H. Shoulders	Nashville

LOCATES IN NEW AUGUSTA

Dr. R. F. Annis, formerly of Biloxi and Wiggins, Mississippi, has acquired the equipment and office of the late Dr. B. T. Robinson of New Augusta, Miss., and has opened the office for practice of medicine in the town of New Augusta and vicinity. Dr. Annis is a retired major of the Army Medical Corps, a graduate of the University of Tennessee, 1919, and Army Medical School of Washington, D.C., 1921, and of Army School of Roentgenology at Washington, D. C. He engaged in general practice at Wiggins, Mississippi, from 1909 to 1917; entered the army in 1917 and was retired August

1929; from 1929 to 1936 he was resident physician in Indiana State Hospital, at Lafayette, Indiana; from February 1938 to September 1942 he was part-time roentgenologist for the Biloxi Hospital, Biloxi, Mississippi. He is a member of the Coast Counties Medical Society, the Mississippi State, and a fellow of the A. M.A.

TO THE MISSISSIPPI DOCTOR:

I enjoy reading your pages and am glad that they are open for discussions.

I think that the great influence of the medical profession should extend to moral influences as well as to physical necessity.

It is my opinion that if all of the people were taught all the ways of preventing pregnancy, there would be a large increase of diseases not caused by pregnancy. Promiscuousness would produce a superabundance of disease. I do not feel that there could be a greater stroke against morality than the adoption of control of conception by organized medicine than that proposed in the address given by a New York doctor before the annual meeting of the Mississippi State Medical Association and published in your June issue.

W. R. Hunt,
Tupelo, Miss.
July 8, 1943.

MISSISSIPPI VALLEY MEDICAL EDITORS' ASSOCIATION MEETING ABANDONED FOR THE DURATION

The officers of the Mississippi Valley Medical Editors' Association have cancelled the 1943 meeting (which was to be held at Quincy, Ill., on Sept. 20) and no further meetings will be held for the duration. The plan is to keep the organization intact and to resume after the war with the present officers in charge for the first post-war meeting. In the interim no dues will be levied. Further details may be obtained from the president, Dr. James Dunn, 1003 Davenport Bank Building, Davenport, Iowa, or the Secretary, Dr. Harold Swanberg. 209-224 W. C. U. Building, Quincy, Ill.

DR. BROWN SURVIVES AFTER SINKING OF U. S. McCRAWLEY

A letter received in Columbus by Dr. A. E. Brown's mother, written on July 5, states that the former local physician, now in foreign service, was aboard the *U. S. McCrawley* when that vessel was hit by a torpedo on July 5 and immediately sank, but it added that he was safe and none the worse of his experience except for the loss of some belongings.

COUNCILORS-ELECT

Dr. W. T. Wootton, president-elect of the Southern Medical Association, Hot Springs National Park, Arkansas, has announced his appointment of members of the Council for a regular Council term of five years, beginning after the Cincinnati meeting, to succeed those whose terms will expire at the close of that meeting.

LOUISIANA

Dr. Wiley R. Buffington, New Orleans, to succeed Dr. Lucien A. LeDoux, New Orleans.

MISSISSIPPI

Dr. J. P. Culpepper, Jr., Hattiesburg, to succeed Dr. Wm. H. Anderson, Booneville.

OKLAHOMA

Dr. Carroll M. Pounders, Oklahoma City, to succeed Dr. George R. Osborne, Tulsa.

CHANGES IN THE LIST OF MISSISSIPPI PHYSICIANS

[SINCE THE MARCH 1, 1943, ROSTER]

ADD:

Dr. E. S. Baker to Bay St. Louis, Hancock County.

Dr. Berney S. Clay to Pascagoula, Jackson County.

Dr. W. W. Nobles to Tunica, Tunica County. Returned from military service.

Dr. J. L. Shirley (colored) to Jackson College, Jackson, Hinds County.

Dr. L. C. Spencer to Pascagoula, Jackson County.

CHANGE:

Dr. J. C. Henthorne from Jackson, Hinds County to Vicksburg Hospital, Vicksburg, Warren County.

REMOVE:

Dr. David Thomas Boozer from Amory, Monroe County, moved.

Dr. E. L. Collins from Tyro, Tate County, deceased.

Dr. John B. Howell from Canton, Madison County, deceased.

Dr. Percy Hudson from Utica, Hinds County, deceased.

Dr. F. E. Rehfeldt from Jackson, Hinds County, deceased.

Dr. H. B. Watkins from Noxapater, Winston County, deceased.

GONE TO MILITARY SERVICE:

Dr. M. H. Robertson from Corinth, Alcorn County.

Doctors in the Service

LIEUTENANT JIMMIE GREEN IS SURGEON IN AFRICA

Lieut. James C. Green, formerly of Tupelo, now stationed in a medical and surgical center composed of six large hospitals in North Africa, has written his father, Dr. J. H. Green, that he has been put in charge of the number one general surgical team in a hospital center.

The hospitals are equipped with all types of the latest improvements needed in the care and treatment of soldiers, medically and surgically, Lieut. Green said. He and his unit are very busy and well pleased with the center.

His first assistant, he wrote his father, is his best surgical friend, a graduate of Harvard University and a former resident in general surgery at Postgraduate Hospital, New York, N. Y.

* * * *

Dr. Julian E. Boggess, Jr., obstetrician formerly of Macon, Miss., has been reported a prisoner of war in Germany.

Deaths

DR. C. A. JOHNSON

Dr. C. A. Johnson, who had practiced in Calhoun City for more than 50 years, died at his home at Banner, Miss., June 30 of a heart attack. He was 82.

A native of Alabama, Dr. Johnson came to Calhoun County with his parents in 1862. He was graduated from the old Memphis Medical College in 1894 and had practiced in Calhoun County since he began his practice. He was a member of the State Medical Association, a Mason and a deacon of the Banner Baptist Church.

Surviving are his wife, Mrs. Evangeline Johnson; three sons, Dr. C. A. Johnson, Jr., Waco, Texas; H. G. Johnson, Big Creek, Miss., and W. D. Johnson, Bruce; two daughters, Mrs. D. A. McKibban and Mrs. W. B. Cannon, Bruce, and a brother, W. F. Johnson, Bruce.

DR. J. L. PARKES

Funeral services for Dr. James L. Parkes, who died at the Veteran's Hospital in Tuscaloosa, Ala., were held from the Conchatta Baptist church with interment at Harperville, Miss. Masonic rites were conducted at the grave by Judge Percy M. Lee, Forrest.

Dr. Parkes, a captain in World War I, was overseas for 18 months. He was a graduate of the University of Louisville, Ky., and practiced for a while at Batesville.

He is survived by his wife; and six children, Thurman Parkes, Leland; Harry Parkes, Conchatta; Ensign Eline Parkes, Quantico, Va.; and Jesse Parkes, USN; Mrs. Calvin Johnson, Washington, D. C., and Miss Mary Parkes, Conchatta.

He is also survived by two brothers, G. C. Parkes, former sheriff of Leake County and J. C. Parkes, Philadelphia; and two sisters, Mrs. F. M. Wiggins and Mrs. H. C. Majure, Philadelphia.

DR. F. M. MALONE

Dr. F. M. Malone, 85, last of the widely known Malone brothers, was buried in Bethlehem Cemetery, near Capleville, Tenn., near his lifelong home on the state line.

Son of the late Dr. Franklin Jefferson Malone, a surgeon in the Mexican War of 1846, he was the brother of Judge Walter Malone, Shelby Cohunty judge and author of the poem "Opportunity"; Mayor James H. Malone, County Trustee Robert F. Malone and John Malone of Capleville.

Holding a B.A. degree from Sewanee and an M.A. from Peabody, he taught school for 20 years before he undertook to carry out his ambition of becoming a doctor like his father. Then he completed the three-year medical course at the University of Nashville in 18 months.

He was the oldest member of the Memphis and Shelby County Medical Association. Active in the work of the Methodist Church, he taught a Sunday school class at the Capleville church for years.

His home was part of the old Malone place, which is partly in Shelby County, Tenn., and partly in De Soto County, Miss. The old home was just over the line in Mississippi but Dr. Malone's home was in Tennessee.

He leaves his wife, the former Laura Lane, and six children, Dr. Franklin J. Malone of Clarksdale, Tenn., First Lieut. James Henry Malone of Randolph Field, Texas, Ferdinand M. Malone of Cordova, Mrs. M. M. Tuggle and Mrs. J. W. Ross, both of Capleville, and Miss Alba R. Malone, former member of the editorial staff of the *Commercial Appeal* who now is with the Department of Justice at Washington.

DR. HOMER B. WATKINS

Funeral services for Dr. Homer B. Watkins, 63, were held from the Noxapater Methodist church.

A practicing physician for the past 40 years in Neshoba and Winston counties, he was a graduate of Memphis Hospital Medical College, Memphis, Tenn. He was a steward in the Noxapater Methodist church and a Mason.

Survivors include his wife, Mrs. Sybil Watkins; two sons, W. Everett Watkins, Noxapater, and Dr. H. Stribling Watkins, Coal Valley, Ala., three sisters: Mrs. Les Haskins, Philadelphia, Mrs. Sudie Shiner and Mrs. J. L. Donald, both of San Antonio, Texas; and one brother, Dr. W. L. Watkins, Philadelphia.

DR. W. J. HUTSON

Funeral services for Dr. W. J. Hutson, 60, who died in a Lake Village hospital Sunday morning, were held from the Eudora Baptist Church, Eudora, Ark., June 23.

Dr. Hutson was a native Mississippian, having been born in Rials, Miss., in 1882. He was educated at Memphis Hospital Medical College, Memphis, Tenn.

He is survived by his wife, three daughters, Mrs. N. L. Ball, Mrs. Donald Borland and Mrs. Olon W. Scott of Eudora; five sons, Woodrow of the Marines; W. J., Jr., of the Army; Hurie of Chicago; Robert of Benton; and "Buddy" of Eudora; two brothers, Tom, of Magee, Miss; and Earl of Eudora; and a sister, Mrs. Charles Williamson, of Eudora.

DR. C. R. GARRAWAY

Funeral services were held for Dr. Charles P. Garraway in Laurel on Wednesday afternoon June 9.

Dr. Garraway died shortly after being taken to the Laurel General Hospital, from injuries received when he was badly crushed by his car as it overturned after running into a fence about seven miles north of Richton on Highway 15 early in the afternoon.

Dr. Garraway, who was in his late fifties, was a native of Perry County and although he had made his home recently in Mobile, he had spent a number of years in the practice of medicine in Richton, going there from Laurel.

He was educated at the University of Louisville, Louisville, Ky., at Tulane University, New Orleans, La., and at Barnes University, St. Louis, Mo.

Surviving are his wife, Mrs. Mary Garraway; two sons, Charles R. Garraway, Jr., of the U. S. Army, Marianna, Florida, and John Stevens Garraway of Burbank, California, and one daughter, Mrs. J. C. Feduccia, of Mobile. One brother, Russell Garraway, of Richton, and one sister, Mrs. W. D. Mobley, of Meridian, also survive.

DR. R. J. BROWN

Dr. R. J. Brown, practicing physician in Iuka for nearly 40 years, died at his home July 12 after an illness of several weeks, doubtless aggravated by overwork and strain due to the lack of physicians in the county. His practice extended throughout the county in Alabama and Tennessee.

Dr. Brown was a past-president of the Northeast Mississippi Thirteen Counties Medical Society. He was an ardent sportsman and former president of the Trap Shooters' Association and had won many national prizes at the traps. He was 65.

A native of Iuka, he was the descendant of earliest citizens of the county.

He leaves his wife, Mrs. Mattie Watson Brown; two daughters, Mrs. Arthur Harris of the Natchez School faculty and Mrs. Ben Holdridge of Camden, Tenn., three sons, Watson Brown of Carbondale, Ill., and Jim Brown, medical student of the University of Tennessee.

He was the brother of Mrs. E. A. Payne and Mrs. John Robinson of Iuka; Prof. J. E. Brown of Mississippi Heights Academy, Blue Mountain, Miss.; Mrs. Joe Rogers of New Albany, Miss., and Mrs. Ellen Luker of Memphis.

DR. LONNIE MOSELEY

Dr. Lonnie B. Moseley, 41-year-old Jackson physician, died at his home in Jackson of a heart attack on July 6.

He had received a medical discharge from the Navy about six months ago.

A native of Jackson, Dr. Moseley attended public schools there and held degrees from the University of Virginia, where he was a member of Kappa Alpha fraternity. For ten years he was associated with the Jackson Infirmary and at the outbreak of World War II he was commissioned a lieutenant commander in the Navy. He served in the Solomon Islands and the Far Eastern area until he received a medical discharge.

He leaves his wife, the former Frances Ransom; two sons, Lonnie Moseley, Jr., and Niles Ransom Moseley; his mother, Mrs. L. B. Moseley, and a brother, Niles Moseley, all of Jackson.

Book Review

AIR-BORNE INFECTION, by Dwight O'Hara, M. D.; Professor of Preventive Medicine, Tufts College Medical School; Visiting Physician, Boston City Hospital; Physician-in-Chief, Waltham Hospital; published by the Commonwealth Fund, New York, 1943; 114 pages, nineteen tables and illustrations. Price $1.50.

A concise study of diseases transmitted through the air and acquired by breathing, this little book presents clearly and simply the underlying causes of such epidemic ailments as smallpox, diphtheria, the common cold, pneumonia, streptococcus infections, rheumatic fever, and tuberculosis. Pointing out the declining incidence of these diseases, as well as the declining death rates, the author warns that many physicians find it difficult to recognize them because they appear so infrequently in their practice. Dr. O'Hara calls attention to the danger of complacency, when after a decade or so of artificial immunization certain diseases appear to be "stamped out." The virus is still present and active, and is kept from general invasion only by constant innoculation against it.

Dr. O'Hara also analyzes briefly the elements which combine to produce high resistance to disease, and concludes with the statement that only constant vigilance and complete mobilization by both the profession and the public will defeat the second axis of air-borne infection, and prevent another national calamity like the influenza epidemic of 1918.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H, Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

DERMATOLOGY

Doctors M. H. Goodman and Maurice Sullivan of Baltimore call attention to, and report five cases of postarsphenamine lichen-planus—like exanthem. The question brought up in this paper is whether these patients actually have a true lichen-planus or whether the eruption is simply due to the toxic effect of the arsenic. Other points were brought also in that it might be that certain patients have a tendency toward lichen-planus, whereas other patients would have a tendency toward seborrhea, or an exfoliative type of eruption.

It was brought out in the discussion that the condition might appear in one of six ways:

1. Incidental occurrence of lichen-planus in a treated syphilitic.
2. Syphilis could imitate lichen-planus.
3. Arsphenamine by direct toxic action, or allergic action, may produce a true lichen eruption.
4. Arsphenamine may act secondary causing a lowering of the body defense.
5. Arsphenamine may act by "lighting up" a latent toxic focus.
6. Arsphenamine acting on a skin with "an innate capacity of the lichen type."

In commenting on this paper and looking back at my own experience in this particular type of eruption, it is my opinion that there are very few patients who have a true lichen-planus, at the time or shortly after treatment for syphilis, and that the eruption whether it is a lichen-like eruption, or whether it is an eczematous type of eruption, is due in most cases to the absorption of the arsenic into the skin over a prolonged period of time. Stopping the arsenic in my opinion, would not produce an immediate return to normal, but would only serve to prevent further absorption of the toxic substance which was being stored there.

It is my belief that arsenic absorbed into the skin remains there for an indefinite period of time and may remain in detectable quantities for the rest of the patient's life. This eruption is one that should occur late in the treatment in contrast to the acute eczematous, exfoliate, type of eruption that occurs early in the treatment.

Southern Medical Journal, June 1943; V. 36; No. 6; P. 401. —J. G. T.

EAR, NOSE AND THROAT

CONTROL OF HEMORRHAGE—William S. Hulse, M.D., Cleveland, Archives of Otolaryngology, Volume 37, 6:831.

The author reviewed experimental research which disclosed that intravenous or intramuscular injection of oxalic acid in experimental animals produces a rapid fall in the blood coagulation time. It is also noted that the injection of the solution of oxalic acid raises the total level of the substance in the blood stream far above that which can be accounted for by the small amount administered. Normal values of 5.5 to 7.5 mg. per 100 cubic centimeters of blood has been established but values for cord and maternal blood are found as high as 17 mg. per 100 cc. The lowest recorded fatal dose was 5 grams and the lowest toxic dose 10 grains. The substance is deemed to be rather inert in the body and appears to be excreted by the kidneys. Injection of large amounts of this substance appears to cause death by clogging the renal mechanism.

The solution recommended is 1 gram of chemically pure oxalic acid dissolved in 1 liter of distilled water, placed in stoppered bottles and autoclaved; it is apparently stable for some time.

The author points out the obvious fact that the elements responsible for blood coagulation must pause long enough to carry out their function; and that in severe nasal (and similar) hemorrhages, it is necessary for the usual methods of packing to be used so as to slow the hemorrhage sufficiently for clots to form. He observes that the clot of blood, after the administration of oxalic acid, has been noted to be firmer and less elastic than normal.

"The method of choice of administering the solution under discussion is intravenous. Its intramuscular use is attended by slight discomfort for a few minutes but this should not bar employment of this route if it is deemed the one indicated. As a prophylactic measure 2 cc. may be given one to one-half hour prior to operation followed by the same amount immediately afterward."

"In cases of profuse hemorrhage 3 to 5 cc. may be given intravenously followed in one-half hour by 2 cc. injected intramuscularly if the hemorrhage persists. Additional amounts of 2 cc. may be administered at hourly intervals if hemorrhage does not stop, for three doses***"

"Once this solution has entered the blood stream its action is almost immediate and one adequate dose will persist in its activity for several hours. In the amounts recommended it has not proved to be toxic, in contrast to other substances administered for the control of hemorrhage. It contains no alkaloids or proteins and bad effects are not to be expected."

Comment

Such a simple method, if effective, should have a wide application in the field of otolaryngology in particular and in surgery in general. —E. H. J.

PEDIATRICS

"Habitual Vomiting and Nicotinic Acid"—J. E. Virasoro and R. Monsoliu, La Prensa Medica Argentina, 30: 292 (February 17) 1943.

Habitual vomiting is one of the most frequently encountered affections in infants and the authors here state their results with the nicotinic acid treatment of this syndrome; they stress that vomiting on the basis of congenital stenosis of the pylorus, hypertrophic stenosis, compression of the duodenum by the mesenteric artery and similar lesions, and vomiting which forms part of a meningeal, pulmonary, or infectious syndrome is not influenced by nicotinic acid. Treatment with nicotinic acid is suitable for those cases of vomiting in which the cause cannot be established and in which symptomatic treatment is therefore indicated. Vomiting of this type may be little marked, may not impair the general condition, and may be influenced readily by the usual medication, but in some cases it will prove rebellious to the ordinary treatment and will have serious repercussions on the general condition. Roentgenologically, atonia or hypertonia of the stomach could be observed by the authors in a large percentage of the rebellious cases. In atonia the peristolic function of the stomach is impaired and concentrated food is therapeutically indicated as it diminishes the distention of the stomach and favors the peristolic contraction. The authors resorted to nicotinic acid treatment in cases in which concentrated food proved ineffective or unfeasible.

Roentgenologic studies have shown that injections of nicotinic acid improve the gastric tonus in cases in which it was deficient, and accelerate gastric peristalsis and evacuation, while no marked or constant influence on the intestinal motor function could be determined.

The authors report several illustrative case histories of habitual vomiting favorably influenced by nicotinic acid in doses of 50 to 75 mg. and draw the following conclusions:

1. Nicotinic acid improves the gastric tonus, accelerates the the peristalsis and favors the gastric evacuation.
2. Nicotinic acid is a very valuable drug in habitual vomiting of infants, and particularly in cases with roentgenologically confirmed gastric atonia.
3. The authors used nicotinic acid in a daily dose of approximately 15 mg. per kg. of body weight, divided into three or more portions.
4. The drug should be given immediately before or after meals in order to avoid painful gastric contractions which may be produced in the empty stomach.
5. It seems unnecessary to divide the daily dose into more than three portions, as the drug does not act locally but on the basis of its concentration in the blood, by a mechanism which is not as yet known.
6. In the dosage used by the authors nicotinic acid seems to be free of toxic effects; there was only transitory flushing of the face of several minutes' duration and without any repercussion on the infants' well-being.
7. Usually the gastric function will remain normal if administration of the drug is stopped after some time, and usually the drug will have to be given for only a few days.

Comment

The suggestions made in this article relative to the therapeutic use of nicotinic acid are well worth the time to read.

PUBLIC HEALTH

Bacteriological, Epidemiological, Immunological, and Chemotherapeutic Aspects of Bacillary Dysentery, by Erwin Neter. Gastroenterology 1: 366-382, April, 1943; 471-489, May, 1943.

The author has given a very comprehensive review of this important infectious disease, affecting as it does every age group and occurring in practically every country of the world. Because it is endemic in many countries where war is raging at the present time and is a potential threat to the efficiency of allied military effort, the presentation of the subject is timely and includes important advances in our knowledge of bacillary dysentery which have been made in recent years.

The causative organisms responsible for bacillary dysentery in man belong to the genus *Shigella.* The species are commonly known as, 1. Shiga (*Shigella dysenteriae*), 2 Flexner (*Shigella paradysenteriae*), 3. Sonne (Shigella *sonnei*), 4. Schmitz (*Shigella schmitzii*), and 5. Newcastle (*Shigella newcastle*). Too often some of the so-called "allied species" are assumed non-pathogenic, such as *S. ambigua, S, alkalescens, S. equirulis, and S. castellanii,* and should be considered possible infections in instances where clinical diagnosis agrees.

Shigella Shiga is the only member of the species which produces powerful exotoxin, but all species contain endotoxins and there is little doubt that these toxins play an important role in bacillary dysentery. All the true species of the Shigella group have been reported by investigators as having caused outbreaks in many instances all over the world, the mortality rate ranging from less than 1% to 50% and higher. The widespread occurrence of these infections is due largely to patients with dysentery or to carriers of these organisms. The dysentery bacilli are excreted with the feces and, directly or indirectly, this accounts for the contamination of water, food, flies, and sometimes ants. The number of cases reported in the United States places bacillary dysentery as an important and common infectious disease even in sections of the country where good sanitary conditions prevail. It is endemic in many institutions and epidemics may occur anywhere.

With improved bacteriological diagnosis of bacillary dysentery the cause of colitis, enteritis, and diarrheal diseases in general can be better understood. After a study of the feces for the presence of parasites such as *Entamoeba histolytica,* a complete bacteriological examination should be carried out. Many investigators have reported excellent results from the use of suitable culture media for the isolation of Shigella.

Adequate experimental evidence regarding the effectiveness of the sulfonamide drugs toward the dysentery bacilli forms the basis for the clinical use of these compounds in the treatment of bacillary dysentery in man. There are very convincing reports as to the effectiveness of the drugs. A study of 135 Shiga cases with sulfaguanidine revealed excellent results. The treatment of Flexner, Sonne, and Schmitz dysentery cases indicates that sulfathiazole, sulfaguanidine, and sulfasuccidine are also effective. Sulfaguanidine and sulfasuccidine are particularly suitable for the treatment of infections localized in the intestinal tract, but in parenteral colitis sulfathiazole may be preferable. However, as far as it is known at the present time, toxic effects are seen more frequently with sulfathiazole than with sulfaguanidine and least often with sulfasuccidine. Sulfasuccidine appears to be particularly promising but as yet the optimal dosage remains to be determined.

The treatment of bacillary dysentery with bacteriophage is claimed to be effective by some, while others have failed to confirm these results. Apparently its effectiveness is somewhat questionable. This also seems to be the case in the use of serum therapy. In general, chemotherapy appears to be preferable to all other forms of treatment at the present time.

* * * * *

It is worth noting that in 1942, the Mississippi State Hygienic Laboratory reported 538 positive Shigella isolations, as follows:

S. dysenteriae (Shiga)	3
S. paradysenteriae (Flexner)	223
S. schmitzii (Schmitz)	16
S. sonnei (Sonne)	55
S. newcastle (Newcastle)	17
S. dispar (Dispar)	5
S. No. 8524 (Unclassified)	16
S. alkalescens (Alkalescens)	203
Total	538

The Mississippi State Hygienic Laboratory provides adequate facilities for the diagnosis of bacillary dysentery, and urges their full utilization by physicians throughout the state.

The 538 positive isolations enumerated above are believed to be only a small number of the cases which actually exist. Only through the proper diagnosis of cases and of food-handlers, etc., who harbor these organisms, followed by adequate treatment, can the control of bacillary dysentery be achieved. Carriers are potential sources of infection to others and are therefore an important public health program. The practice of preventive measures by physicians grows increasingly important during a period when there is a shortage of medical service to cope with disease problems, and it is unlikely that Mississippi physicians will fail to be alert in utilizing present facilities for checking such diseases as bacillary dysentery.

State Board of Health

Felix J. Underwood, M.D.

SCHOOL HEALTH SERVICES

The School Health program inaugurated last November by the Mississippi State Board of Health in collaboration with the State Department of Education has been making steady headway. The problem of more adequate preparation of teachers for teaching health in order that school children might have effective instruction in the essentials of health is being helpfully met through the school and community health workshops conducted in recent months.

During April and May, such programs were held in Wheeler (Prentiss County), Biggersville (Alcorn County), and East Tupelo (Lee County). The workshop at Wheeler began on April 5, to operate for six weeks, and was attended by approximately 75 teachers. Directing this program was Dr. J. R. Morton of State College, assisted by his staff. The School Health Service furnished consultants to guide those teachers engaged in working on school health projects. These consultants include:

D. R. Patterson, director of instruction, Mississippi State Department of Education
D. V. Galloway, M.D., medical director, School Health Service, Mississippi State Board of Health
Lucy Massey, R.N., nurse with School Health Service
Mary Stansel, nutritionist, State Board of Health
Eleanor Hassell, associate director, Division of Health Education, State Board of Health
Gladys Eyrich, supervisor of mouth health, State Board of Health
W. G. Eckles, supervisor of school building service, State Department of Education
D. L. Anderson, M.D., field clinician, State Sanatorium
Emil Kotcher, Ph.D., entomologist, State Board of Health

The teachers at the Wheeler school were organized into interest groups and one of the sections was devoted to a study of school health. Twelve of the teachers indicated a special interest in school health work. Individual consultations were held with these teachers and aid was rendered to them in working up their projects. The following types of problems were selected by the teachers:

1. Guidance of the adolescent in health problems.
2. Mental health in relation to teaching methods in school.
3. How to teach in the fourth and fifth grades.
4. How to construct health posters for use in schoolrooms.
5. Materials and methods for teaching health in the primary grades.
6. Preparation of school lunches.
7. Nutrition of the child.
8. The high school health program with special emphasis on the Victory Corps.

Mr. D. R. Patterson held individual conferences with the teachers and met with the discussion groups. He also participated in a panel discussion before the entire workshop. This panel was made up of Dr. D. V. Galloway, Dr. J. R. Morton, Dr. Patterson, and the sanitation supervisor and two nurses from the Prentiss County Health Department. The subject of the panel was "Prentiss County Health

Problems and What Can Be Done About Them."

Individual and group conferences with the teachers were held by Miss Eleanor Hassell, who discussed the sources of health education materials and their uses. The teachers raised such problems as health habits for children, check sheets, handwashing, heating, and lighting. These were talked through with the teachers and aid was given them in practical application as they worked on health plans for the forthcoming year. Packets of health materials, grouped according to grade level, were provided. Miss Mary Stansel, nutritionist, gave assistance on problems of nutrition, including school lunches.

The East Tupelo summer workshop had an attendance of approximately 100 teachers from Lee County, carrying on projects similar to those at Wheeler. Miss Lucy Massey, the school nurse, worked with the teachers, covering the following subjects: morning inspection, vision testing, hearing testing, first aid, handwashing, weighing and measuring, seating arrangement, sanitation (good housekeeping), rest, and teacher-nurse coöperation. The nutritionist, Miss Stansel, contributed help on general food and nutrition problems, and Miss Hassell and other consultants gave assistance similar to that given at Wheeler. A demonstration project of original slides was carried out with the demonstration school, with the children making the slides by free-hand drawing and then having their own picture show. The result was very interesting and educational, both for the teachers and the children. A conference was held with the school art director and plans were made to integrate the arts and crafts activities with health teaching by using health subjects in the art class: for example, various foods were modeled. A food committee was organized to secure milk through the commissary for school lunches. Many of the teachers who had carried on health projects in their own schools during 1942-43 indicated a desire for further study of school health and for planning health projects for 1943-44.

At the invitation of Mississippi Southern College, at Hattiesburg, a program of teacher training in health as a regular part of the college curriculum was set up by the School Health Division in coöperation with the department of teacher-training, which allowed four semester hours college credit. Twenty-two teachers registered for credit in this course together with six others who took it in connection with their regular courses in teacher training. Entitled, "School and Community Health," the course sought to: 1) determine the status of teacher understanding of school health problems; 2) plan instruction for other groups of teachers which will be better fitted to their level of understanding of health teaching in the schools; 3) discover as many as possible of the specific problems faced by the teachers in their schools in south Mississippi and to evolve methods of helping the teachers to solve these health problems.

Without doubt, the school health program will prove a real contribution to public health throughout the state, eliminating as it will many of the previous barriers in disseminating health information and opening new doors of opportunity to achieving maximum physical fitness for Mississippi's children.

* * * * *

MALARIA CONTROL

Ever since the mobilization of troops in various sections of the state, malaria control activities have been intensified. It is recognized that the disease could seriously hamper the war effort. As a follow-up to a program begun last year, trained malaria educators will begin work immediately to stimulate malaria control on a community basis. Trained especially for this work at the University of Tennessee Medical School, the educators will take their positions in the county, working under the direction of the local health department. Activities will include organization of study groups, making known the facts about the disease itself, and encouraging and outlining protective measures against the malarial mosquitoes. Counties scheduled to have this program at this time include Washington, Jones, Monroe, Madison, Leflore, Adams, Forrest, Coahoma, Panola, Yazoo, Lowndes, Hinds, Wilkinson, Amite, and Grenada, all of which are important areas of war activity and industrial production.

A program of education in malaria control measures is not only pertinent to the war effort but to the post-war period as well, when there will be returning to the state many troops who may have acquired strains of malaria more virulent than those to which there has been developed some measure of immunity.

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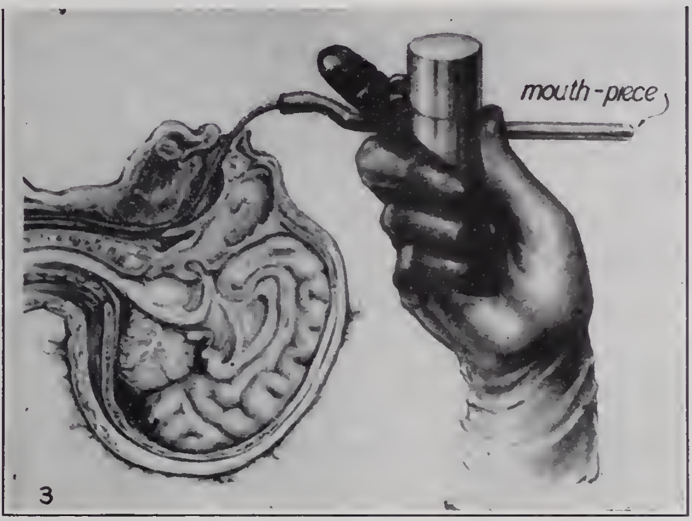

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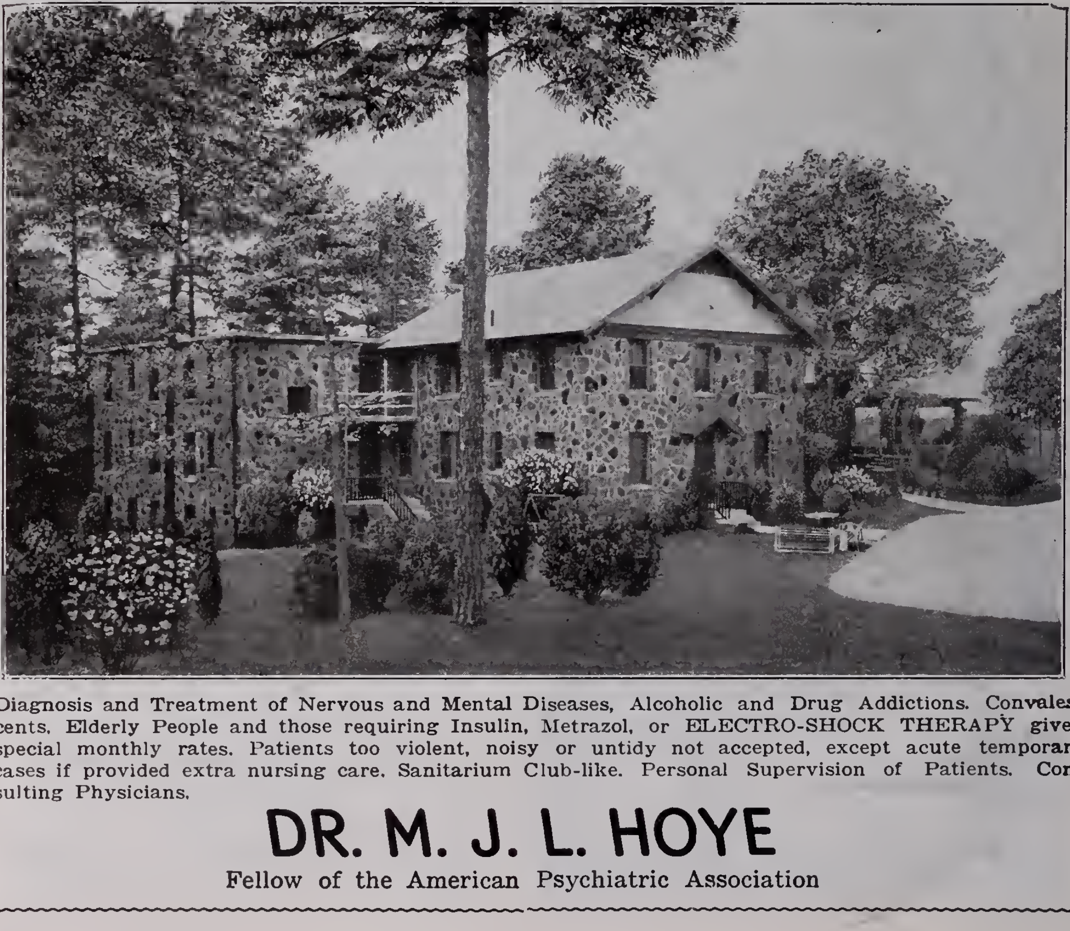

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The Bridge Builder

An old man going a lone highway
Came at evening, cold and gray
To a chasm vast and deep and wide.
The old man crossed in the twilight dim,
The sullen stream had no fear for him;
But he turned when safe on the other side
And built a bridge to span the tide.
"Old man," said a pilgrim near,
"You are wasting your strength with building here,
Your journey will end with the ending day;
You'll never again pass this way;
You've crossed the chasm deep and wide,
Why build you this bridge at eventide?"
The builder lifted his old gray head,
"Good friend, in the path I've come," he said,
"There followeth after me today
A youth whose feet must pass this way;
This chasm that has been naught to me
To that fair youth may a pitfall be;
He too, must cross in the twilight dim—
Good friend, I'm building this bridge for him."

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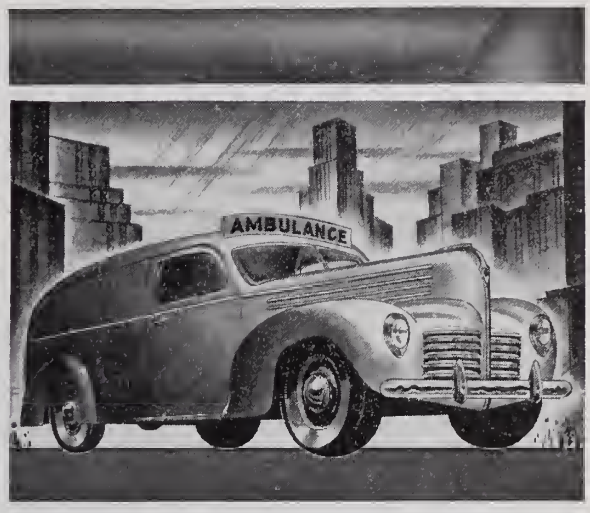

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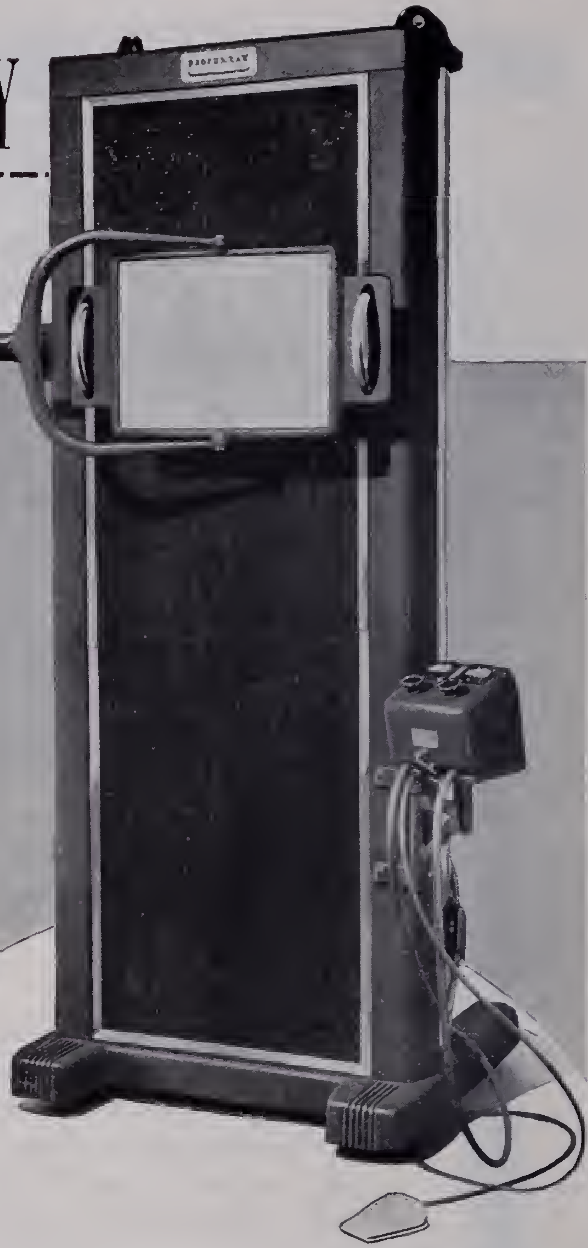

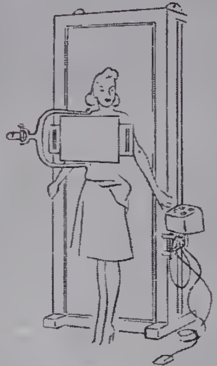

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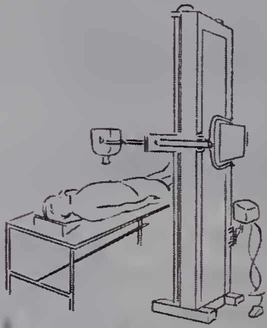

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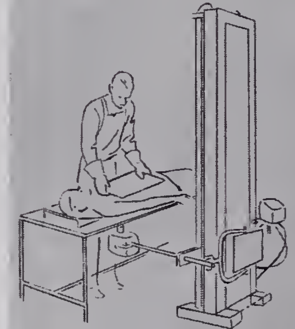

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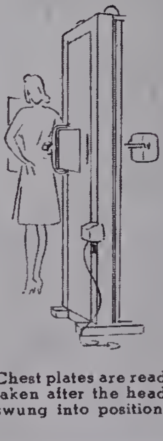

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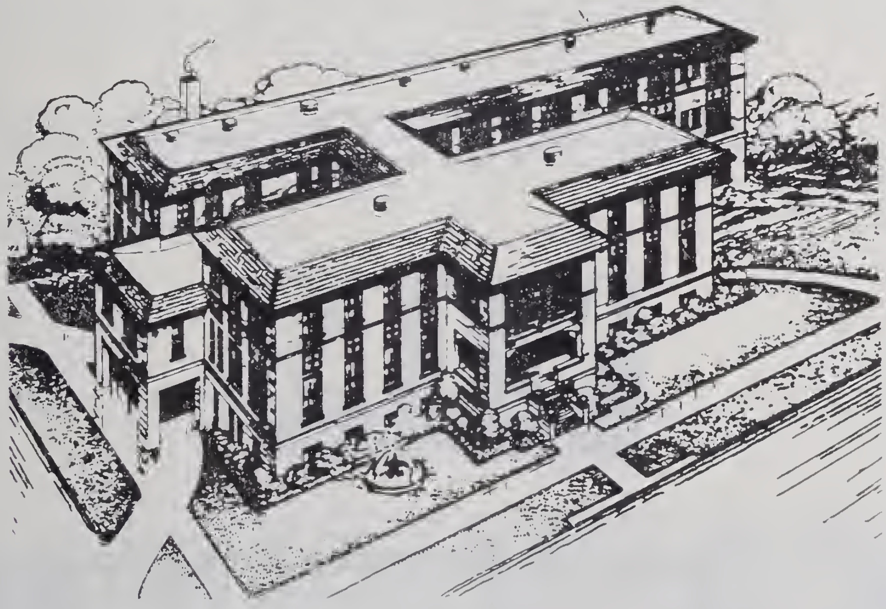

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Industrial Medicine and the General Practitioner*

CARL PETERSON, M.D.
CHICAGO, ILLINOIS

THE IMPACT of industrial health on the practice of medicine is going to be felt long after the war, not only by physicians in industry but by those in private practice as well. We have come to know industrial health as the application of preventive medical procedures in industry. Whereas the attention of health departments was directed toward preventive measures in infant and child health for the most part, it is now considering the adult population. This change has come about primarily because of the need for production in the war effort. In addition, experience has shown that the health of the worker can be improved and that such activity has a definite effect on production. Out of all this, it has been clearly demonstrated that the best place to apply preventive procedures for adults is in industry. Therefore we are confronted with the question as to how these steps are to be applied. Will it be the function of official agencies as in the past with immunization and infant and child health, or will the physicians in private practice recognize this changing approach and equip themselves to carry out the indicated steps?

Before the tremendous increase in production associated with the war effort, ninety per cent of industrial medical practice was carried out by the general practitioner. Also, over ninety per cent of the physicians in private practice had contacts with industry through their patients. Until the present era, the physician's direct relationship with industry was concerned when one considers that industrial medicine and its relationship to adult health has not been taught in many medical schools.

This broad field of industrial health demands the attention of the medical profession along lines which we have not previously given much consideration in our professional practice. We have not viewed the man as a whole, considering the influence of the working environment, home conditions and recreation. These aspects were for the most part overlooked for the treatment of disease and injuries.

We are therefore confronted with the fact that preventive medical practices are going to be applied to adults through industry. This indicates that the medical profession must take cognizance of these changes and prepare for their administration.

Right now the motive for improved medical practice in industry is the conservation of manpower to produce guns, ships, airplanes and ammunition. While one may not have considered Mississippi an industrial state in the past, it now has an important part in this program. The labor situation in relation to war production is serious and will become more critical as our armed forces are enlarged. The purpose of medicine in industry is to promote the health and the physical well-being of the industrial employee. The implications of these objectives are many and demand a type of service from physicians that was not previously recognized. The Council on Industrial Health has stated that the essentials for industrial health services to carry out these objectives are:

1) a competent physician who takes genuine interest in applying the principles of preventive medicine and hygiene to employed groups and who is willing to devote regular hours to such service in the working environment, 2) industrial nurses with proper preparation, acting under the physician's immediate supervision or understanding orders developed by him or by the committee on industrial health of the local medical society, 3) industrial hygiene service directed at improvement of working environment and control of all unhealthful exposures, to be provided by physicians and others with guidance and assistance from the specialized personnel in the bureau of industrial hygiene of the state health department.

A cursory glance at these essentials will give one the impression that the physician must become aware of the industrial conditions and can only do this by spending some time in the plant. It is not expected that every physician will become an expert industrial hygienist, but you are fortunate in Mississippi in having in your Bureau of Industrial Hygiene of the State Health Department a staff of well qualified medical, nursing and engineering personnel to assist you in solving the technical problems with which physicians in industry may be confronted. It is not only their responsibility, but their sincere desire to coöperate with the medical profession and industry to improve the health of the workers.

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*Read before the seventy-sixth annual session of the Mississippi State Medical Association, Section on Public Health, May, 1943.

Large industry has long recognized the wisdom of good medical practice. Heretofore the smaller plants have felt that it was not economically sound, but we have many experiences throughout the country which indicate that every plant, regardless of its size, can establish a sound medical program—of the same quality as in large industries, but of course somewhat reduced in quantity. Such a program requires worth while services of professional personnel in the working environments, stated as the first essential in industrial health service. And it can not be emphasized too strongly that industrial health is not the treatment of injuries but the health supervision of workers during working hours, this supervision being in the nature of health education and consulting service with referral of the worker to his private physician to carry out the indicated remedial steps.

The program to be put in operation to carry out the essentials as outlined consists of an evaluation of the physical condition of the worker and correlating these findings with the job he is expected to perform. This is done by preplacement examinations and by analyzing the physical demands of the operation or process. With the shortage of manpower, this step is becoming of ever-increasing importance. Industry is finding it necessary to hire the physically handicapped, the aged and women without previous industrial experience. Obviously they have physical limitations but they have residual abilities which must be utilized with the greatest efficiency. Many of these workers have physical conditions which may become aggravated by improper employment. Thus it becomes necessary that they be inspected periodically to determine whether or not their work is bringing about any further deterioration.

Besides more efficient production, one of the greatest contributions of such a procedure is the opening up of possibilities for the rehabilitation of the physically handicapped. We are having discharged into private life again the soldiers and sailors who have suffered casualties but who have residual abilities which can be utilized in war production. It is the medical profession's responsibility to help them be rehabilitated in order that they may lead a normal life when this crisis is over. Consider for a moment the results that can be attained by a program of rehabilitation, developed by the medical profession and industry. It would have as its design the utilization of handicapped and older workers. Such programs are in operation as a matter of necessity. The experiences are such that we are learning that this type of a working force is not only productive but is not the casualty liability we always imagined. There are, however, certain changes in employment procedure necessary to carry this out efficiently—one of the most important of which is sound industrial medical practice. The extension of these practices by industry and the medical profession at this time of emergency can lead to a post-war program of human economy which will change for the better some of the greatest sociologic and economic problems. These handicapped and older workers need not be a burden, dependent on relief, but by their residual ability, be productive members of society.

The second portion of the program for industry is health education and consultation. The doctor who is servicing a plant, and remember we are talking about the general practitioner caring for small industries, is in an excellent position to improve the health and hygienic practices of the workers in his charge, through a coöperative program with the family physician. Experience in war industries has shown us that by such a step the absenteeism about which we are hearing so much can be cut to a third. That is a contribution to the war effort that the medical profession should not overlook.

The sanitation of the working environment does not mean only the matter of hygienic water supply and personal facilities, but also the environment in which the employee is working. Therefore, it is necessary that periodic inspection be made by the physician, not only for control but so he will be in a better position to understand the effects of employment on the working force.

The complete correlation of all these matters avails little without the proper keeping of records. The physician may not do the clerical work required in the keeping of the adequate records but he should make studies of the data they contain in order to determine in what direction his efforts should be applied.

This is a comprehensive program and it is practical. If ninety per cent of the industrial medicine was practiced by general practitioners —and industrial health has such an important bearing on the war effort—it becomes the responsibility of the medical profession through its organizations to enlighten itself on this matter. The activities of the Council on Industrial Health of the American Medical Association have been directed along this line at an ever increasing tempo. The Mississippi State Medical Association has had a committee on industrial health; it is time to develop a program along lines which have proved successful. Plans for solving industrial health problems may be made on a national scale, but it still remains for these plans to be carried out locally by the individual practitioner. We have come a long way in this matter, but you are undoubtedly aware that we can improve our position tremendously. We want to be in a position to say that the medical profession has the health of the war worker well in hand. This calls for the active interest of every doctor in practice. Many Mississippi doctors have gone to the armed services and the medical profession in the state has an enviable record for patriotism, but it is the responsibility of physicians in civilian life to improve production through better industrial health procedures. Only by so doing can we assure the private practice of medicine and the successful outcome of this war.

While our minds are centered on so many other things, we should not by any means neglect the due care of guarding the children of the nation against accident and disease in wartime.

Fuel rationing, the absence of mothers and grandmothers from home engaging in defense and similiar work; the employment of juveniles in various capacities should be carefully looked into in order that our young can develop normally. The doctor, the nurse, the clinic and others can materially assist in watching over the baby and small children; the very young should be guarded against the common dangers as smothering, choking and burning, and all other accidental injuries.

Certain Clinical Aspects of Acute Shock*†

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VICKSBURG, MISS.

IT IS THE occasional custom, in some quarters, to disparage the voluminous discussion which still rages concerning various aspects of shock, and it must be granted that its frequently acrimonious character sometimes obscures the real points at issue. It is well to remember, however, that the most important clinical advances in this condition have been made on the basis of these theoretical arguments, which themselves are based on extensive experimental studies. It is not my intention in this communication to participate in these arguments, but merely to emphasize certain observations derived from them, which in my own experience have proved of great clinical value, and to illustrate them with brief case reports. On the other hand, even a clinical discussion requires a brief outline of certain basic physiologic and pathologic data, without an understanding of which therapeutic measures cannot be properly applied.

The definition of shock varies according to the concept of the author who advances it. According to Moon[1], it is "a circulatory deficiency, neither cardiac nor vasomotor in origin, characterized by diminished blood volume, by decreased cardiac output (reduced volume flow) and by increased concentration of the blood." Blalock[2], who avoids in his definition any statement of the theory of origin, defines shock as "a peripheral circulatory failure resulting from a discrepancy in the size of the vascular bed and the volume of the intravascular fluid." This same author[3] has added to this excellent clinical definition an excellent clinical classification of the condition: 1) neurogenic shock, which is characterized by a fall in blood pressure and which may result from such causes as extreme pain or the uncontrolled administration of spinal analgesia, 2) vasogenic shock, which results from such causes as anaphylaxis or an excess of histamine, 3) hematogenic shock, which results from an actual decrease in the effective blood volume, the decrease present whether the underlying cause is hemorrhage, trauma or burn. It is a clinical consideration of the utmost importance that hematogenic shock, which corresponds with Blalock's peripheral circulatory failure, is always associated with a diminution of the effective circulating blood volume, though the exact mechanism of the depletion is not yet clearly understood.

Certain physiologic changes, which are closely linked to each other, accompany the syndrome of shock. In addition to the decrease in the effective circulating blood volume they include: 1) peripheral vasoconstriction, which results in diminished peripheral flow (Freeman[4]), 2) a fall in the venous blood pressure and a fall, sometimes delayed, in the arterial blood pressure, 3) a decrease in the cardiac output, with a corresponding decrease in the oxygen saturation of the blood and in the oxygen consumption by the tissues, 4) a disappearance from the circulation of large amounts of plasma protein, 5) concentration of the red cell hematocrit, 6) resulting tissue anoxia, 7) damage to the capillaries with consequent increased permeability, though whether this increase is local or general is still open to question. These changes are for the most part well established, and fortunately there are methods available which permit estimation of most of them, since a precise knowledge of alterations in the components of the blood is highly desirable from the standpoint of therapeutic rationale. Other less well established changes include an increase of plasma potassium and possibly a disturbance of the adrenal cortical secretion. Whether these various changes contribute to the development of shock or to its perpetuation, or take part in both processes, is not yet entirely clear.

The clinical picture of deep shock is classical. The patient is pale and apathetic. The skin is cold and clammy. The pulse is usually rapid and thready, though bradycardia is occasionally observed. The blood pressure is low. But, as Mahoney and Howland have pointed out, the classical signs of shock are late manifestations of a process which invariably begins immediately after the injury or other causative event. Their statement that "hematogenic shock does not develop instantaneously and the clinical appearance of hypotension is the gross evidence of time-consuming changes in the circulation" is a clinical premise of fundamental importance. Contrary to the general belief, the initial blood pressure readings in a shocked patient may be within normal limits or not markedly lowered, as a result of compensatory vasoconstriction. Hypotension may not be evident until the vasomotor center has been so damaged that paralysis ensues, even though the blood volume may actually have previously decreased by as much as 50 per cent. The progressive decrease in the venous pressure is more striking, but this information, unfortunately, is so technically difficult to obtain that it is of little practical value. Naturally, when shock is due to exsanguinating hemorrhage, hypotension is likely to be present early and to be extremely serious if not promptly corrected. Hypotension of neurogenic origin, if promptly recognized and properly treated, is potentially much less serious. If unrecognized, however, neurogenic shock ultimately presents the picture of true hematogenic shock, and the consequences may be equally grave.

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*Read before Surgical Section, Mississippi State Medical Association, May 12, 1943, Jackson, Miss.

†From the Department of Surgery, The Vicksburg Clinic.

From the laboratory standpoint, the hematocrit reading (which is ordinarily regarded as normal at 45 per cent) tends to rise as plasma volume decreases, though the changes may be of minor significance or the blood may be so diluted by the absorption of tissue fluids that the value may decrease. There is no general agreement as to the changes which occur in the specific gravity of the plasma or in the concentration of plasma protein. Scudder[5] states that both values are increased. Mahoney and Howland[6], on the contrary, are of the opinion that the specific gravity of the plasma actually decreases. There is ample experimental evidence that shock due to intestinal trauma is accompanied by a similar decrease.

The first principle of the therapy of shock is anticipation of its occurrence. Even if the patient is apparently in good condition, an estimate of the severity of the injury and of the time elapsed since it was suffered may suggest that it is likely to occur and indicate the immediate institution of measures either to prevent its occurrence or to limit its degree. This is a serious consideration, for beyond a certain point shock is irreversible, regardless of the treatment instituted to control it, as the following case report makes clear:

Case I. A white woman, 34 years of age, entered the Vicksburg Hospital about six hours after the spontaneous normal delivery of a full-term child. The placenta could not be expressed and a violent postpartal hemorrhage occurred. After repeated unavailing attempts to remove the secundines, the patient was brought to the hospital by ambulance, a distance of 30 miles. She was obviously in extremis when first seen, being unconscious, apparently exsanguinated, and cold and clammy. Routine measures for shock, including morphia, plasma transfusion and oxygen by intranasal catheter, were instituted while preparations for a whole blood transfusion were being made, but there was never any response to treatment, and death occurred within two hours. In this case the disastrous effects of the postpartal hemorrhage were accentuated by the trauma of attempted manual removal of the placenta, and the condition had progressed to the point of irreversibility before any treatment for shock was instituted.

As this case history emphasizes, operative procedures in shock should be avoided without exception until the condition itself has been controlled. Major bleeding should be checked by the simplest possible measures, and fractures should be immobilized, but no other corrective surgery should be undertaken until the more important state has been cared for.

Morphine should be given in sufficient dosage and repeated at sufficiently frequent intervals to keep the patient comfortable. That other drugs occupy any place in the management of shock is doubtful. Certain vasoconstrictor agents such as adrenalin are harmful rather than helpful. The role of adrenal cortical extract is still experimental. If capillary permeability is generalized, which remains to be proved, it may be helpful. In localized capillary damage it would obviously be of no value. Anoxia, which is a serious complication of shock, should be combated by the administration of oxygen, either by intranasal catheter or by some appropriate mask.

External heat was formerly the basic treatment for all persons in shock and is still generally used. Recently, however, Blalock and his associates have furnished convincing experimental proof that profoundly shocked dogs have lived longer and have even recovered when ice rather than heat was applied. Our own clinical experience with this method has been considerable and the results have frequently been striking. The following illustration is a case in point:

Case No. 2. A white female, 37 years of age, entered the Vicksburg Hospital after a series of operations elsewhere during the previous year. The first operation, in November 1940, presumably for benign pelvic disease, was technically very difficult, and was followed by acute peritonitis with acute intestinal obstruction. At the second operation a large area of intestine was found to have sloughed out through the lower abdomen. In September 1941, an anastomosis was said to have been made between the ileum and cecum and thereafter the patient's course was progressively downhill. When she was seen at the Vicksburg Hospital November 29, 1941, she weighed 60 pounds, she was cadaverous and dehydrated, she had an obvious avitaminosis, and she had become a morphine addict. Food taken by mouth was promptly discharged through a draining fistula in the right upper quadrant of the abdomen, the skin about which was macerated, the findings suggesting a communication with the upper jejunum or duodenum. Purulent fecal matter was discharged from a second large draining sinus firmly adherent to the skin just above the pubis, and fecal material was also discharged from the vagina.

After a period of not very satisfactory preparation the first problem, the closure of the high intestinal fistula, was dealt with by partial resection and anastomosis of the jejunum. The postoperative course was remarkably smooth, oral nourishment was soon possible, and the patient gained in weight and strength. January 22, 1942, after it was evident that no further improvement could be expected, correction of the remaining pathology was undertaken. The sigmoid and upper rectum were resected, continuity being reëstablished by end-to-end anastomosis. A blind loop of ileum which was emptying into the vagina was excised. A chronic draining fistula communicating with another loop of ileum was corrected by partial resection of the ileum and end-to-end anastomosis. A third opening into the ileum was also closed, as was an opening into the bladder which required partial vesical resection. The operation, which consumed two and a half hours, was technically very difficult, and the patient was deeply shocked at its conclusion, though whole blood had been administered in the course of the procedure. There was little response to the usual measures for shock, including the reverse Fowler position, external heat and a heat tent, oxygen by intranasal catheter, morphia in adequate amounts, and a second transfusion, as well as constant intestinal decompression. Five hours after operation the pulse rate was 140, the blood pressure could not be obtained, respirations were shallow and sighing, the patient was cyanotic, and her hands and feet were cold. Three hours later she seemed definitely moribund. At this time heat therapy was discontinued and ice caps were applied to the abdomen and lower limbs. Within two hours the respiration had improved and cyanosis had decreased, though the pulse still could not be counted. Applications of ice were continued and plasma transfusions were given, by means of which the state of shock was satisfactorily controlled. Death ultimately occurred on the fourteenth day, from other causes, but there seems no doubt that the application of ice turned the tide in favor of a moribund patient during the period of profound shock.

If the concept be accepted that shock represents a disparity between the size of the vascular bed and the intravascular content, fluid replacement is clearly even more important in the management of shock than the general measures just outlined. Such replacement, however, must be based on a planned program and requires an intelligent knowledge of the relative proportions of erythrocytes, protein and plasma lost from the blood, as well as of the causes of these deficits.

In shock which is the result of hemorrhage there is no special problem. Protein, fluid and the cellular content of the blood are lost in equal proportions, and the loss is corrected by the administration of whole blood. In shock due to trauma the deficit is chiefly of fluid and protein, because there is an excessive loss of plasma from damaged and therefore permeable capillaries. The losses must be corrected by the administration of either whole blood or plasma, both of which contain the missing elements. The administration of physiologic salt solution, so often practised under these circumstances, is not only not beneficial but is actually harmful, in that it results in the washing out of additional protein from the effective circulating blood volume.

Shock due to burns presents special problems in each patient. The loss of intravascular content is almost entirely due to loss of plasma. Although the erythrocyte content of the blood is unchanged, hemoconcentration occurs, due to loss of fluid volume, and the hematocrit reading rises proportionately. A tremendous amount of protein is lost, the fluid in the vesicles of the lesion often containing as much as 4-5 gms. (largely albumin) per 100 cc., and there is a resulting inversion of the albumin-globulin ratio. The only rational therapy is the administration of sufficiently large amounts of plasma to replace the lost plasma and protein, as illustrated by the following case report:

Case No. 3. A white male, 32 years of age, was admitted to the Vicksburg Hospital an hour after he had fallen into a vat of boiling water in a lumber mill. Prior to the trip by ambulance the local physician had administered morphine. Examination showed a patient in profound shock, with third degree burns of the whole body from the mid abdomen to the feet, the estimated area involved being 30 to 35 per cent of the body surface. The blood pressure was 110/70.

He was placed in a tub of warm water and gentle débridement was carried out, followed by tanning with 5 per cent tannic acid. Morphine was given in adequate amounts, and an intravenous infusion of 10 per cent glucose in physiologic saline solution was begun. At this time the hemoglobin reading was 100 per cent. Twelve hours following admission it had risen by progressive degrees to 120 per cent and the blood pressure had fallen to 104/72. Following an infusion of 750 cc. of plasma the hemoglobin value fell to 98 per cent and the blood pressure rose to 120 84. Two hours later (14 hours following admission) both hemoglobin and blood pressure were within normal limits and the patient's condition was greatly improved. A second plasma transfusion of 250 cc. was given, and within another hour the blood pressure had risen to 140/80. On the following day the hemoglobin was 102 per cent, but following an infusion of 500 cc. of plasma it fell to 90 per cent. The eschar was satisfactory. No marked hemoconcentration was observed thereafter. This case is an excellent illustration of marked hemoconcentration following a very extensive burn, which was controlled satisfactorily by the prompt administration of plasma.

The components which make up the treatment of shock are important, but it is not always remembered that the sequence of treatment is also very important, as the following case report shows:

Case No. 4. A 32-year-old white male was admitted to the Vicksburg Hospital in moderate shock, suffering from severe third degree burns of the anterior chest and upper extremities and the face and neck. He was placed on sterile linen bed, under a heat tent, and was sedated with barbiturates; he had been given morphia before admission. Four hours later the injuries were cleansed and dressed with powdered sulfanilamide and compression dressings, under pentothal anesthesia. Routine general measures, including oxygen, were instituted. For practical reasons neither whole blood nor plasma was available until twenty hours after admission. By this time the hemoglobin, which had been 115 per cent on admission, had risen to 122, and the hematocrit reading had risen from 48 to 72 per cent. There was considerable improvement in the hematocrit reading and some improvement in the hemoglobin value and red blood cell count after the administration of 1,000 cc. of blood plasma. The improvement was not sustained, however, after either this transfusion or the subsequent transfusions of plasma and whole blood, and after the last infusion of plasma on the fifth day the course was rapidly downhill to death. On the second day, when continued loss of plasma from the burned area was evident, the compression dressings were removed and rapid tanning carried out. The plasma and whole blood transfusions were supplemented by other forms of parenteral fluid therapy according to the indications.

This case is an excellent illustration of the application of proper treatment for shock, but in the wrong sequence. Plasma or whole blood should have been administered in adequate amount immediately after the patient was hospitalized, before the burned areas were touched, but whole blood was not available and for economic reasons plasma infusions were not immediately practical.

It is an interesting fact, of great clinical importance, that bodily economy, although it tolerates the loss of plasma and of protein very badly, tolerates the loss of red blood cells very well. A case in point follows:

Case No. 5. A white female, 35 years of age, underwent abdominoperineal resection of the rectum, which was carried out without special difficulty. She left the operating room in excellent condition, with a pulse rate of 100 and a blood pressure of 110/68. Routine postoperative measures were instituted. Four and a half hours later the resident reported she was practically pulseless and obviously in extreme vascular failure. Examination showed the gauze packed in the posterior wound to be completely saturated with blood, as was the bed linen.

Obviously a severe postoperative hemorrhage had occurred. The patient was immediately placed in the deep shock position and was given a large blood transfusion, while the bleeding vessel was identified and ligated. Two hours later the systolic blood pressure was 150 mm. of mercury and recovery thereafter was uneventful. As this case history shows, there is usually a prompt response to transfusion of whole blood in severe hemorrhage provided that treatment is carried out before shock has become irreversible.

SUMMARY

1. A sound clinical concept of shock is based on Blalock's definition that the condition is essentially a disparity between the size of the intravascular content.

2. The arterial blood pressure is eventually lowered in the course of shock, but hypotension represents time-consuming changes in the circulation and therefore is not an invariable early phenomenon.

3. Rational therapy includes:

A. Such general measures as the deep shock position, the application of external heat or cold, and the use of morphia and oxygen.

B. Replacement therapy, plasma and/or blood being used in the individual case according to the respective proportions of protein, fluid and cellular content lost from the blood.

4. Prophylaxis is better than therapy, however adequate therapy may be, and even adequate therapy cannot control shock if it has been permitted to become irreversible.

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Penicillin, a new drug obtained from mold, is receiving much attention and promises an effective control in severe infections due to staphylococcus aureus, etc. More knowledge of this valuable drug will be given us later.

Adynamic Ileus – Report of a Case

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Adynamic ileus or paralytic intestinal obstruction usually follows abdominal operations or peritonitis. However, it has been known to follow other operations, even cataract operations[1], and other diseases[2] or injuries as biliary colic, ureteral stones[3], torsion of an ovarian cyst, pulmonary infection, uremia, tabes dorsalis, tumors of the spinal cord, fractured ribs[4], other skeletal injuries, and crushing of the testes[5].

Here is the report of a case following a stab wound of the chest:

Mr. S. W. was admitted to Huntington Memorial Hospital on July 30, 1942, at 1:50 A.M. following a ballroom brawl in which he was stabbed in the lower right chest. He was intoxicated and bleeding freely from the stab at about the seventh rib. The admitting officer made a note that there was extreme rigidity of the abdomen but no distention. His temperature on admittance was 99, pulse 120, and respiration 30. The next morning he was markedly dyspneic. Moist rales were present over his entire chest, but more especially over his right chest. His abdomen was very rigid and markedly distended. There was slight cyanosis. Some peristalsis could be heard. The x-ray of his chest showed haziness of the right base but no free fluid in the chest cavity and no pneumothorax. An upright picture of the abdomen showed marked distention of both the large and small bowel but no fluid levels. There was no gas visualized outside the intestine. No exudate showed up in the x-ray.

His RBC was 5,200,000, hemoglobin 105%, WBC 9,600, and urine negative. His chest was taped. Morphine and atropine, tetanus antitoxin, glucose and saline, and sulfathiazole were given. That night his temperature went up to 101, his pulse to 138, and respiration to 34. The next day his RBC was 5,300,000, hemoglobin 103%, WBC 15,400. He was put in an oxygen tent and Wangansteen suction was started. Colonic irrigations brought out a small amount of flatus. On August 1 an exploratory laparotomy was done. At operation, marked distention of both large and small intestines was found. There was no exudate, no pus, and no increase in the peritoneal fluid. No puncture of the diaphragm or liver or any viscus was found. The patient's condition during the operation was poor. He was shocked and somewhat cyanotic. He was given blood transfusions, adrenal cortex and intravenous fluids. His temperature the night of the operation went up to 103.6, his pulse 142, and respiration to 22. The blood transfusions and Wangansteen suction were continued. On August 2, the day after the operation, his RBC was 5,000,000, hemoglobin 99%, and WBC 15,500. He was given another transfusion. His oxygen, Wangansteen, and intravenous fluids were continued. His abdomen was still very rigid and distended. Pitression was given (one ampoule every four hours). There was some gas being expelled after this. He began to have reactions from the pitressin however, so it was discontinued. Vitamins were started by needle. 300 cc. of saline was given in the vein. The next day the abdomen was a little softer, the pulse volume was good, and there was a wheeze over the entire chest. On August 5 his RBC was 5,100,000, hemoglobin 96%, and WBC 9,800. On August 8, the fifth day after the operation, the abdomen was softer, but there were many rales in both lungs—more on the right. On August 8 the sutures were removed. The patient was out of the oxygen tent on August 10. He was hungry and ate well. The abdomen was soft, the pulse was stronger and slower. On August 13 the stay sutures were removed. The wound was in good condition. From then on the improvement was rapid. On August 20 his lungs were almost clear, his abdomen was soft, appetite good and his bowels were regular. He had been fever-free for several days. The wound was firm. This patient had recovered in spite of his operation.

In my opinion the most important points in his treatment were the morphine, blood transfusions, intravenous fluids (including saline), and, very important, the duodenal drainage. Sulfathiazole helped keep down infection. The enemas and colonic irrigations gave him some relief. The patient had adynamic ileus and board-like rigidity of the abdomen following a stab wound of the chest that did not penetrate the abdominal cavity.

MECHANISM: Both the vagus and sympathetic nervous system supply the intestines[4]. Stimulations of the splanchnics, which contain sympathetic fibers, in experimental animals causes relaxation and cessation of movement in the small bowel[6], while division of the splanchnics causes marked increase in the intestinal movements[7,8]. Relief of ileus by spinal analgesia is due to paralysis of the dorsolumbar sympathetic nervous system, leaving the vagus or para-sympathetic supply unopposed[9]. This effect is counteracted in some degree by giving the sympatheticomimetic drug ephedrine before administration of the spinal analgesia.

In their report of ten cases of adynamic ileus following fractured ribs, Altemeier and Wordsworth[4] postulate the following four possible mechanisms: 1)Irritation of the ganglia by post-traumatic edema, 2) Irritation of the thoracic sympathetic ganglia by the proximal displaced rib fragment, 3) Irritation of the sympathetics by retropleural hematoma, or 4) reflex stimulation of the splanchnics through the peripheral stimulation of the intercostal or abdominal nerves. The last mechanism must have been the one acting in the case reported here. The wound was well anterior on the chest wall. The board-like rigidity of the abdomen vouched for the marked irritation of an intercostal nerve.

CLASSIFICATION: Oschsner and Gage[10] classify the causes of adynamic ileus as follows:

I. Intra-abdominal
  A. Peritoneal irritation
    1. Traumatic
      a. Postoperative
      b. Penetrating wounds
    2. Chemical
      a. Extravasation of blood
      b. Perforated peptic ulcer ....early
      c. Bile peritonitis ....early
      d. Acute prancreatitis ....early
  B. Vascular changes
    1. Strangulation
      a. Intramural
        Distention following mechanical ileus
      b. Extramural
        Compression of the mesenteric vessels
    2. Mesenteric thrombosis
  C. Extraperitoneal irritation
    1. Hemorrhage
    2. Infection
    3. Renal
II. Extra-abdominal
  A. Toxic
    1. Pneumonia
    2. Uremia
    3. Empyema
    4. Systemic Infection
  B. Neurogenic
    1. Injuries and diseases of the spinal cord
    2. Lead poisoning
    3. Fracture of the lower ribs
      Irritation of the splanchnic nerves

PATHOLOGY: The increased distention of the bowel not only lessens absorption, but increases secretion into the lumen[10]. The gas, carbon dioxide, is even secreted into the lumen. The stretching of the gut wall compresses the blood vessels therein. The wall becomes edematous and the muscle cells of the intestine become swollen and hydropic.

DIAGNOSIS: Abdominal distention and absence of peristaltic sounds naturally should be the symptoms of a syndrome marked by intestinal distention and intestinal paralysis. This is true to a great extent, but complete bowel paralysis actually occurs only in diffuse or generalized peritonitis[9]. It will be noted that peristaltic sounds were heard in the reported case. The pain of adynamic ileus is constant and deep-seated. The pain of ileus in early organic obstruction is colicky in character due to increased efforts of the intestines to propel their contents past the obstruction. Later in mechanical ileus there is a metallic tinkle succeeded by a silent abdomen. In adynamic ileus it may be possible to obtain gas and feces by enema, but this is also true in organic obstruction when the obstruction is any distance above the rectum.

X-rays are invaluable in the diagnosis of any ileus[10, 11, 12], especially those taken with the patient in the upright position or those taken as an AP or PA with the patient lying on his side. Serial views taken at intervals of several hours give much more information than single pictures. I remember a case of ureteral colic that presented clinical and x-ray findings resembling ileus whose true nature became apparent after a night's rest from morphine and another x-ray in the morning. Howorth and Garland[11] conclude from their studies that acute mechanical obstruction should be suspected in a case of less than forty-eight hours' duration when there is distention, fluid levels, no visible peritoneal exudate, and a visible peritoneal line between the ribs and the iliac crest, while a visible peritoneal exudate with or without obduration of the peritoneal line is more indicative of strangulated obstruction or peritonitis with paralytic ileus. They also state that absence of fluid levels in the upright position is good evidence of absence of true obstruction or paralysis of the bowel. Neither fluid levels nor peritoneal exudate were noted in the reported cases, only marked distention of all the hollow abdominal viscera.

TREATMENT: Opening the abdomen plays little part in the modern treatment of adynamic ileus unless all other means of decompressing the distended bowel have failed. It is said that then it might be advantageous to do one or more enterostomies[10, 13]. The patient reported here was operated on for exploration for diagnosis rather than for treatment. I think the slightest peritonitis from any procedure opening the gut would have been the extra factor that would have kept him from surviving.

The sheet anchor in the treatment of adynamic ileus is Wangansteen suction[9], using the duodenal tube or preferably the Miller Abbott double lumen tube[14] to decompress the distended bowel. It is possible for a skilled person to pass the end of the Miller-Abbott tube through almost the entire length of the bowel. Dr. Mims Gage has mentioned that it can be passed even through the rectum. Intestinal intubation is also most valuable in preoperative treatment of mechanical obstruction.

No less important in treatment is maintenance of body fluids and electrolytes[10, 13, 15] with intravenous glucose and salts. Ochsner and Gage[10], while admitting that hypertonic saline not only helps restore electrolyte balance but also increases gut motility, insist that both jobs are done better when calcium and potassium chloride are added to sodium chloride solutions. They highly recommend 20-strength Ringer's solution in an intravenous dose of 2½ cc. per kilo of body weight, and more highly recommend 20-strength Hartman's solution (easily prepared by adding 5 cc. of distilled water to the 20 cc. commercial ampoule now marketed as lactate Ringer's solution) in a dose averaging 15 cc.

Spinal analgesia or splanchnic block are claimed to be efficacious in treatment of adynamic ileus by some, and others to be of not much value[10, 13, 15].

Drugs are of secondary importance. The most effective seems to be prostigmin[16]. Pitressin and physostigmine are also used[10, 13, 15].

I have found enemas and colonic lavages to be valuable in relieving distention. They helped in the case reported and are valuable for postoperative distention. Many patients prefer colonic irrigations to nasal suction. Small amounts of water are run into the large bowel and siphoned off at many different levels. Sometimes the amount of flatus obtained in this way is astounding. A colonic lavage or "flush" has made many a patient more comfortable for me. These methods do not replace nasal suction but augment it.

The prevention of many cases of adynamic ileus is impossible as in the case here. The early postoperative cases[10] are treated by withholding oral substances until nausea is gone, heat to the abdomen, and morphine. Morphine increases the intestinal tone. In operative cases likely to be complicated by ileus—due to excessive peritoneal trauma, infection, or any reason — prophylactic Wangansteen suction often works wonders.

Bisgard and Matson[9] studied the effects of heat and cold on gut motility and found heat to the abdomen completely inhibited intestinal motor activity while ice packs increased motor activity. Cold liquids by mouth inhibited motor activity, and hot liquids by mouth increased motor activity. This brings up the question of should heat be used to the abdomen to treat postoperative ileus. It is of value in so-called gas pains as it relaxes the spastic gut that causes the colic. It makes one think that postoperative liquids should be hot to help normal peristalsis to be resumed.

SUMMARY

1. A case of marked adynamic ileus due to a stab wound in the chest that did not penetrate the peritoneal cavity is presented.
2. Adynamic ileus is discussed.

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The woodpecker is a persistent, perspicacious and pertinacious bird. It has a slender body, powerful chisel-like beak and protrusive tongue, which is sharp, barbed, pointed and covered with a glutinous secretion derived from glands in the throat. The tail is stiff and serves as a support when the bird is clinging to the side of a tree or house. He is solitary in habit; fruits, seeds and insects constitute his food; he exhibits wonderful dexterity and when by tapping with his bill a rotten piece is discovered, he digs vigorously, and likewise uses a powerful lot of energy on good sound timber and seems never to weary. When at work a characteristic tap is heard. He is a native to this country and we see some of his kind daily.

Dr. Charles C. Bass*

AN APPRECIATION

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NEW ORLEANS, LA.

> "You should not be
> The grave of your deserving; Rome must know
> The value of her own; 'twere a concealment
> Worse than a theft, no less than a traducement,
> To hide your doings."
>
> Cariolanus, Act 1, Sc. IX.

Someone has said that a single flower in a man's buttonhole is worth a ton of roses piled upon his grave. Today we have assembled here to put a few flowers in the boutonnière of a dear and honored friend. Not that he needs to wear them, but that we need to bestow them; for any nation or institution that fails to honor its citizens who have arrived and achieved, will have no young men tomorrow capable of arriving or desirous of achieving. And further, does not the Scripture as expounded by its most renowned apostle exhort us "to render to all their dues; tribute to whom tribute is due; custom to whom custom; fear to whom fear; honor to whom honor;" and, are we not enjoined by the same holy authority, "Do that which is good, and thou shalt have praise of the same."

Dr. Bass' life and works are familiar in their greater outlines, to those of us who have lived in his environment, but there are several notable facts in his heredity and early childhood which are important in foreshadowing the most striking features of his professional career.

Born on his father's farm at Carley, Marion County, Mississippi, on January 29, 1875, exactly 65 years ago, he was descended from a long line of sturdy, long-lived, energetic and God-fearing people who had been made comfortable and happy by their wise cultivation of the soil, as farmers and planters, until the Civil War and its consequences came to prostrate them financially. Dr. Bass speaks reverently of his father and mother and of their influence in shaping his future destiny. From them he inherited an unlimited flow of energy and by their precepts and example, he has instilled into him the severe, but salutary, philosophy of a life of labor, constant and faithful devotion to duty, perfect honesty and uncompromising rectitude

DR. CHARLES C. BASS

His mother, Eliza Wilks, still living at 85, is a wonder of energy, managing her household and business interests.

The father, Isaac E. Bass, was descended of a family proverbial for their honesty and inexhaustible capacity for work. "None can work as hard as a Bass," was the current saying in the county. At his death on October 14, 1933, at 83 years, he was survived by his devoted wife and seven of their children: Dr. C. C. Bass, Dr. Elizabeth Bass, Dr. Cora Bass (Mrs. A. A. Pigford), Rear Admiral Ivan E. Bass, U. S. N., Mr. Isaac H. Bass (who manages the family estate and owns the Bass pecan industries), and two married daughters, Mrs. A. S. Applewhite and Mrs. H. W. Greer. One son, L. Gaston Bass, died in his senior year at Mississippi State College of meningitis fol-

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*Address on behalf of the Administrators and Faculty of the Medical School of Tulane University of Louisiana, at a luncheon given in honor of Dr. C. C. Bass, on his retirement from the deanship, on January 27, 1940, at the Hutchinson Memorial Building. Published in the April 1940 issue of *New Orleans Medical and Surgical Journal*.

lowing a head injury sustained while playing on the college team.

From an admirable oration delivered over his remains by one of his closest friends—Senator H. C. Yawn, of Mississippi—we are told that Isaac Bass was a cheerful, trustful, hopeful spirit undaunted in adversity, honest to self torture in the discharge of his obligations. He lived to recover his lost fortune and to be solaced and comforted in his last days by the consciousness of the great legacy he was leaving to posterity by giving the world sons and daughters who had attained notable distinction in their chosen fields of labor, far beyond his fondest expectation, and who, by their outstanding services to humanity, had not only brought fame to themselves but blessings to the world.

According to one of his best informed biographers, Dr. Bass as a child showed an inquisitive mind, stimulated by his parents, who gave him unceasing encouragement in his school studies and in his boyish, but original experiments. As a result, the boy, Charles, doctored his father's animals; he used his father's shops to make his own wagons, machines and fish traps; he experimented with such widely diversified hobbies as bees, and flying machines.

At 14, he went to Jackson and graduated from Wyatt Business College. At 15 he entered the high school at Columbia, Mississippi, and graduated at 18 (1893). This high school course and his preliminary country school training were the extent of his general education. The next two years he spent at home working with his father. His last farm work was to raise a crop of cotton, and his father gave him the proceeds of that crop for his first year in the medical school.

During these early years the local physician (Dr. L. D. Dickerson) lived in his father's house and before he was out of his teens, Charles had medical books of his own. Encouraged by his parents, he had read some medicine before entering the medical school.

At 22, he married Miss Coraline Howell, of Edwards, Mississippi, and from this happy union three daughters and a son were born.

In the fall of 1896, he matriculated in the Medical Department of Tulane and was graduated M. D. in 1899. Characteristic of his enterprise, he passed the medical examination of the Mississippi State Board of Health and during vacations practiced in the vicinity of his father's farm.

Charles Bass, a lad about eleven years of age, with his hunting dog.

Dr. Bass' first office, in front of which he is seen mounted on the horse he used in making calls.

As his father had suffered heavily in a great financial panic, Dr. Bass sent himself through his second and third years in the medical school, using borrowed money to a great extent.

After graduation (1899) he located in Columbia, Mississippi. It was the town where he had been a lively school boy. The family physicians of the region were two mature, well established men, to whom everyone readily accorded the title "Doctor," but Dr. Bass was a plain "mister" to these people. However, "Mister Bass" or "Doc Charley" understood his native country and its people and at the end of five years was "Dr. Bass" in earnest, with an extensive country practice. Before the end of the period he began to realize his need of a fuller knowledge of medicine. In 1903, he attended the meeting of the American Medical Association in New Orleans. There he heard papers read on hookworm disease, which had not, at that time, attracted general attention, and was not supposed to exist in the United States to any extent.

While listening to these papers, he said to himself, "Hookworm! that's what's the matter with those children back there in the country." He bought a microscope and went back determined to study those children. During the next seven or eight months he was able to recognize and treat 75 or 80 cases of hookworm disease and in this way was one of the first to appreciate the importance of uncinariasis in the South (1903).

These early revelations of the advantages of scientific training for laboratory research deeply impressed him, and it was his varied laboratory experience that was the most important factor in molding the plan of his later life. Realizing the paramount importance of the microscope in the diagnosis of disease, he registered at the Johns Hopkins Hospital in 1904, where he spent the greater part of that year working at clinical microscopy with Dr. Charles E. Simon and in the clinics and the laboratories of the hospital. It was then he realized his liking and decided inclinations for research.

After his stay at the Johns Hopkins School he decided to locate in New Orleans and he opened offices in the Macheca Building in October, 1904. He soon realized that the people of the city differed greatly in their living conditions and ways from the farmers of Marion County and that he, himself, was a "country doctor." Presently, Dr. John B. Elliott, Sr., took him under his kindly patronage and gave him a chance to teach a clinical assistant at the college, in his department (1905). It was a great opportunity for a young man, although no salary was attached to the position. As he had but little practice, he devoted himself to research. To this end he fitted a private laboratory in his own home, where he did most of his work in perfecting the technic and epidemiology of hookworm disease. His continuous work in this field put him in line for promotion; his teaching and laboratory ability became recognized and in the spring of 1907 he was appointed a salaried assistant in the laboratories of clinical medicine. With this appointment it may be said that Dr. Bass' scientific career fairly began and once started, his *curriculum vitae* sped on at a rapid pace. From 1907 to 1909 he became the director, and continued in charge until 1912, when he was elected Professor of Experimental Medicine, a position which he has held to this day, despite the arduous and time consuming duties of the dean's office, to which he was elected in 1922, and has continued to hold to the present day of his retirement, January 29, 1940—18 years.

In summing up his professional career, we see that he has been 41 years a doctor of medicine, (M. D., Tulane 1899-1940); 35 years continuously a teacher in Tulane, including 18 years of his deanship in the faculty. He was 24 years old when he graduated M. D.; 30 years when appointed instructor; 37 years when professor; 47 when dean, and 65 at the close of his deanship.*

It would be out of order on this occasion to attempt to enumerate the multitude of researches and productive experimental studies that he has contributed to the progress of hemic and intestinal parasitology in all its aspects. His work on malaria and his discovery of a method of cultivating the specific organism (1911)—the Plasmodium—in all its polymorphous aspects *in vitro*, outside of the human body, may be regarded as his *magnum opus* and a great technical triumph in hematic parasitology. It has permitted the study of the natural history and reactions of this parasite in all its purity and its differentiated types. All the great parasitologists and hematologists, such as Theobald Smith and C. W. Stiles, had deemed this feat impossible. But Dr. Bass' ingenuity, skill and patience prevailed over obstacles, and he fairly succeeded in raising a pure and unadulterated breed of the parasite at will, just as he had succeeded previously in isolating the ova of the uncinaria, or hookworm, by making them perfectly free from the intestinal excreta.

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*A review of the chronology of the deans of the medical school shows that Hunt was the youngest when appointed (26 years); Chaille the oldest when appointed (55 years) and the longest in office (23 years). Second in point of years in office was Richardson, who served 20 years; Bass is third (18 years); and Dyer, fourth (15 years).

In April, 1912, he sailed for Panama, with Dr. Foster M. Johns (Tulane, 1912) as assistant, under the auspices of the Department of Tropical Medicine of Tulane, and remained there three months working with all the facilities afforded by Col. Gorgas, at the Government Hospital in Ancon. Time and constant watchfulness are necessary for the success of such investigations. Dr. Bass has been heard to say (but not for publication) that during his stay in Panama, he worked 15 hours a day and took only two Sunday afternoons off. On his return the cultures, specimens, photographs, apparatus and technic employed were exhibited by Dr. Bass at the International Congress of Hygiene and Demography held in Washington September 23-28, 1912. Dr. Bass' malaria exhibit was regarded as the leading feature of the Congress. Bass had triumphed and completed the pathogenic trinity of malaria causation. A Frenchman, Laveran, had been the first, in 1880, to discover the parasite in the blood; Ronald Ross, an English army surgeon, had described its mode of transmission by the anopheles mosquito in 1899; it remained to Bass, an American, once a Mississippi country doctor, to discover the means of breeding it at will in all its purity that it might be the better studied.

There is no doubt that if an anthology of the malarial plasmodium—this beautiful, but fearfully dangerous parasite—is ever published, it will claim Dr. Bass among its most conspicuous contributors.

It was for his commanding position in the field of research and for his contributions to medical education that he was chosen president of the Southern Medical Association in 1926.

His scientific merit has been recognized by many societies which have conferred on him numerous titles and honors, notably by the award of gold medals by the Southern Medical Association, by the American Medical Association, by the Mississippi Medical Association, by the Orleans Parish Medical Society, all in recognition of the originality and great importance of his scientific work, and conspicously for his researches in malaria; and no less a gold medal by the National Institute of Social Sciences for contributions to the welfare of mankind.

Without pretending to do justice to his work in other fields of research, besides malaria and uncinariasis, his early investigation of the opsonic index and autogenous vaccines, which took him to England in 1908 to study the methods of Sir Almroth Wright; his later work in the vitamin diseases, beriberi and pellagra (which he was the first to recognize in Louisiana); his simplified methods of diagnosing typhoid fever; his known studies in pyorrhea and amebiasis; and, latest of all, his discovery of the cause and mode of transmission of the "quail disease" so important for the farming industry, will suffice to show Dr. Bass' versatility and enterprise This last contribution was undertaken after Dr. Bass' sixty-fourth birthday, and while very busy and active with the administration of the medical school.

In closing this very sketchy survey of Dr. Bass' activities, I can only stress his merit as a contributor to the progress of the medical science in the particular department in which he figures most conspicuously. I believe the judgment of the experts who are most competent to pass upon his merits has long ago accorded him a high seat in Louisiana's Hall of Fame, and has inscribed his name as an indelible intaglio in the memorial tablets of America's contributors to scientific discovery for the good of humanity at large.

From the viewpoint of Tulane, the benefits derived from Bass' 35 years of teaching have been incalculable, especially to the thousands of our alumni who have been trained under his eyes in a department of medical science (clinical microscopy and experimental medicine) which is a *sine qua non* in the modern concept of a doctor's training, a department which Dr. Bass, himself, lifted in this school from the pioneering stage to the present proud position it now occupies in all progressive medical schools.

But more than this, the scientific career of Dr. Charles Cassedy Bass will remain a perennial example of success of the highest scientific order attained despite the hardships and obstacles that the actual practice of medicine in a rural district would seem to oppose to the realizations of any scientific ambitions on the part of the practitioner.

In going over the biographic records of the 13 professors who have occupied the dean's office in the course of 106 years that the medical department of Tulane has been in existence since its foundation in 1834, we find that they were, each and all, men of outstanding general ability, and distinguished experts in the various departments in which they specialized. Apart from the functions of the deanship, all, with very rare exceptions, have left their imprint upon medical history or upon medical literature. As a whole, they represent a great and glorious company of whom this institution may well be proud, for they are all worthy of a crypt in the pantheon of Louisiana's medical immortals.

If I were to sum up the distinctive characteristics of Dean Bass' deanship, I would say they are precisely like those which he has displayed in his scientific work, which, in turn, are largely those of his hereditary traits, namely: capacity for taking infinite pains in the accomplishment of his task, seeing problems and working with perseverance to solve them, skepticism in interpreting phenomena as facts without much retesting of results, precision and exactness in technic, uncompromising fidelity to truth, rectitude and straight dealing in all the relations of life, with inability to disguise the true sentiments—moving always in straight lines, seemingly avoiding curves and detours. Evidently never believing in the quadrature of the circle, he has not accepted the circling of the square. Diplomacy, in its politically accepted sense is certainly not one of his arts, but he leaves his office with perfect demonstration that very successful accomplishments are possible without resorting to undulant lines.

Dr. Elizabeth Bass Assembles Notable Collection

VERA MOREL
NEW ORLEANS, LA.

ALMOST A century ago, when Elizabeth Blackwell received her license to practice medicine, was established the right of women physicians to exist in these United States. Prior to the end of the nineteenth century only a few women had served as internes in hospitals and with but few exceptions were denied membership in medical societies. Slowly the barriers of prejudice and discrimination gave way. On April 17, 1943, the final formidable barrier fell when the bill "for the appointment of female physicians and surgeons in the Medical Corps of the Army and Navy" became a law.

This historic event focuses attention upon the record of a tempestuous and heroic struggle for equal opportunities and privileges in the field of medicine. This story has been told only in part. Accounts of the work of ancient medical women are recorded in various histories of medicine. Of the American pioneers who met strongest opposition with courage and fortitude and ultimate success, not a great deal is known. These women were too busy to write autobiographies and memories. Only through fragmentary facts, old letters and records, is their story being brought to light.

Largely through the efforts of Dr. Elizabeth Bass, formerly of Lumberton, Mississippi, now practicing in New Orleans, has the record of women in medicine been made available. Housed as a valuable addition to the Rudolph Matas Library of Tulane University School of Medicine is the collection she has amassed by gift and purchase over a period of many years, the Elizabeth Bass Collection of Women in Medicine, which is considered the finest in this country and includes many signed manuscripts, first editions, rare pamphlets, letters, brochures, photographs, press clippings, lantern slides, ancient and modern books by and about women in medicine throughout the ages.

Through extensive travel and friendship with scientists and physicians over the world, Dr. Bass accumulated the material presented to the school where she taught since 1911 one of the first women physicians appointed to the faculty of a medical school for men in the South, and the first woman member of her parish society.

Contrary to popular thought, the woman physician did exist in earliest times. When men went forth to battle, she cared for the wounded, tended the sick, gathered herbs, and mixed poultices. There is mention in the Bible of Hebrew nurses and midwives who did all of the obstetrical operations in those times. An ancient record in stone shows a woman physician presenting a patient with poliomyelitis to Isis. About 600 years ago women physicians of Sumer were known as "honorable healers," and there is knowledge of women doctors in the royal courts of China and of Siam. On obelisks and tombs of Egypt are written records of women physicians. The famous medical school at Heliopolis was attended by Moses and his wife, Zipporah. In Greece there were numerous goddesses of healing. Pliny praised many women healers of his age. In Spain and parts of Asia Minor are to be found gravestones of early medical women, who enjoyed high standing.

Royal women of the fifth and sixth centuries studied and practiced medicine and midwifery and during the centuries of wars and plagues women physicians were recognized in northern Europe. The abbesses of the Middle Ages were pioneer medical missionaries and their influence was extensive. In the thirteenth and fourteenth centuries in Europe, particularly in Italy, women were admitted to the great schools where many of them became professors. At Salerno, women physicians presided over the department of diseases of women. Anna Morandi Manzolini held the chair of anatomy at the school of Bologna for nineteen years and was the first to make wax reproductions of minute portions of the human body. Italian women were preëminent, for Italy had opened her medical schools to women and for a thousand years they enjoyed equal opportunities with men.

Not until the dark period of the Middle Ages were women doctors barred from the profession by the church and by the prejudices of men. The struggle during this period is ably told in an important volume of Dr. Bass' collection *History of Women in Medicine* by Dr. Kate Campbell Hurd-Mead. The American scene however is one fraught with interest to us all, and the collection contains valuable records of such splendid fighters at Elizabeth and Emily Blackwell, Marie Zakrzewska, Ann Preston, Mary Putnam-Jacoby, Mary Thompson, and other pioneers.

In 1849 Elizabeth Blackwell, after being turned away from seven medical schools, graduated at Geneva, New York, the first woman physician trained in America. In 1854 through her efforts was established the New York Infirmary for Women and Children, where social service was introduced and a woman inspector appointed to work with immigrants toward sanitation. Influenced by her friend, Florence Nightingale, Dr. Blackwell established the first American training school for nurses in 1857, and in 1871, with her sister, founded the New York Medical College for the training of women physicians. This institution had the first chair of hygiene in this country and was later absorbed by Cornell. In 1850 was established the Female Medical College of Pennsylvania, now the Woman's Medical College, from which institution Dr. Bass received her medical degree. During the first World War was organized the American Woman's Hospital unit which served during and after the war in the countries of the Near East. At that turbulent time only male physicians could become members of the Medical Reserve Corps, although women were appointed as contract surgeons to do any work required by the Army. Their efforts to secure opportunities for service equal to those given to men, both as members of the staffs of base hospitals and otherwise, went unheeded. A few American women physicians joined the units that were from Scotland and England. The Medical Women's National Association offered its services as a unit to President Wilson upon the declaration of war. There was no provision by law or regulation providing for the service of medical women except in the capacity of nurse under the Red Cross organization.

April 17, 1943, therefore has become a red-letter day in the calendar of American medical women, truly a day of independence in this land of the free.

Anything our readers may have on women in medicine or anything that would be of interest for her library, Dr. Elizabeth Bass, 1440 Tulane Avenue, New Orleans, would be happy to receive information of it. It is an excellent investment of time to browse her fine collection, and still better, to interview Dr. Bass. Mississippi is justly proud of her place in medicine.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Along with the life and outstanding work of Dr. Charles C. Bass in this issue of the journal we pause to pay tribute also to the achievement of his sister, Dr. Elizabeth Bass, who was so long connected with Tulane. She is now doing general practice in New Orleans. Tulane never had a finer laboratory teacher than Dr. Elizabeth Bass, who has the genius of converting the intricate into a simple and understandable form. The women physicians of this nation and the world may be proud of her. Her keen intellect and retentive memory leave one amazed at the accurate information on medicine, its history, and its relation to human affairs. She has taken the part of women in medicine and at this time with their admittance to the armed forces and with the shortage of doctors in the country, she sees a new recognition of their contribution. Dr. Bass has not lost any of her interest in her native state of Mississippi. She loves her state and its people and is well informed on the state's advances. She has a great faculty for details that pertain to human progress, both local and national. We are indebted to her for information from her collection in the Rudolph Matas Library of Tulane concerning the March of Women in Medicine.

Before the war began Mississippi had 15 per cent fewer doctors than it had a half century ago, for a population that has more than doubled. The state has now sent 234 of our best and most active men into the armed forces—163 per cent of our quota. In the United States between five and ten per cent of the entire population are above sixty years of age, whereas about fifty per cent of our doctors have passed their threescore years. With less than twelve hundred doctors listed in practice in the state, including those in public health work and others not very active, our doctors are dropping on the civil firing lines faster than they are in the field of battle. Even with health conditions continuing unusually good, our doctor shortage might become hazardous, for even when the war closes it is estimated that one third of the doctors will be kept in the army for an indefinite time. Consequently our medical problem is serious enough already to elicit apprehension and inquiry from the people.

The politicians blame the doctor shortage on the medical profession and the feeling between the two groups bespeaks no great understanding. The politicians and the masses are willing to lower standards it seems in order to meet demands. And the most lamentable phase is that politicians with socialistic tendencies are taking the stand for state medicine.

State medicine has not proved a success in the nations that have had it for many years. It has a strong tendency to destroy the personal relation between the doctor and the patient and it also has a tendency to lessen the individual effort of the doctor. Freedom of thought and the reward of individual effort activates the human brain in its quest for the divine mysteries of science and its application for the good of man. In the freedom of man is the hope of human progress, especially as it relates to the medical profession. For the initiative in medicine and the application of medical science we are very positive that the United States does not at this time have a peer. Our nation will be the outstanding leader in medical thought when the present conflict is over. While we fight for world democracy it seems unthinkable that medical science should be hampered in its onward march to free the people of the bonds of disease. On medical matters our leaders in Congress might do well to consult the medical profession and it, in turn, should be prepared to give sound and unbiased advice. Senator Wagner, in the preparation of his bill that provides for more than three billion dollars and the subsidizing of medicine to a revolutionizing degree, did not seem to consider the advice of the medical profession of any importance. The situation seems to demand that for the ultimate good, the people, the lawmakers, and the medical profession should know and understand each other that our medical problems be solved in a brotherly and a coöperative manner. Medical service is too precious to be limited by selfish politics.

The medical profession at this time has on its shoulders a powerful responsibility and also a challenging opportunity. It must seek a closer relation to human affairs and to every human interest.

Its one aim should be the building of total health assets. The term health must include not only physical power, but mental stability and moral stamina as well. The medical profession can no longer hold itself aloof, and feel set apart from the everyday thought and action of all the people. Dictators and brain trusts in our county societies, on through to the American Medical Association heads, must give way to more democratic medicine. The medical profession must understand that its existence and well being is not the thing of paramount importance, but that the application of the best known in medicine to all the people is its title to existence. The health of a thousand people is more important than the livelihood of one doctor. The medical profession can not through its aristocratic insouciance, reduce itself to a trade union status. Courageous, aggressive, and assertive now that the soul of human health is threatened by ignorant or selfish or socialistic politicians, the medical profession must catch a new vision of total health assets for all the people, rule against selfish gain on the part of the few in its own ranks, and with a united effort perpetuate a brotherhood that believes that service is the measure of true greatness.

In a recent issue of the journal Dr. C. C. Bass had a paper on prevention of decay of the teeth. He believes that teeth can be saved, decay can be prevented, by simple cleanliness. Plain soap and water, tooth brush and dental floss are the main implements in the armamentarium. In this piece of research work he has laid down a great challenge on a most important subject. Dr. Charles Bass is one of the most careful laboratory workers this nation has ever known. His ability as a research man is known around the world. The burden of tooth decay is upon those who would differ with him yet we have no solution to offer. We believe his work will prove to be of untold value. His work in the field of malaria, his study of the diseases of quail, and his versatility in other subjects has established him as a research man.

We are very proud of Dr. Bass as a Mississippian. You will note the little picture taken when he was a practitioner down near Lumberton. The time he spent in general practice was no doubt most valuable to him in later years as a laboratory man and in his research also. Dr. Charles Bass, Dr. Foster Johns and Dr. Elizabeth Bass we would rank among the finest teachers in laboratory this country has yet known. Theirs was the tutelary genius for converting the intricate method into the simple form. They believed in letting the truth take its course, not trying to prove something to fit a pet theory of their own. Dr. Bass's father showed his ability as a research man in the field of pecan growing and other fruit trees, especially the non-blight pecan culture and pecan production. Assisted by other members of the family and particularly his son I. H. Bass, in sixteen years his returns from "the stump," sheer example of what brains and industry can do with poor cut-over pine land in south Mississippi, were estimated to be worth a million dollars. The Bass pecan nursery is the largest in the world. There wonders have been wrought with pecans.

Dr. Charles Bass made a fine contribution as dean of Tulane University. He left a lasting imprint on the medical school. He was outstanding for his direct methods and his practical applications. He understood what was needed by the practitioner back in the country. We need more of this type of dean and teacher in our medical schools.

One by one and all too rapidly the leaders in medicine and surgery are passing on. Crile, Finney, Kelly, Deaver, Barker, and a few days ago, McCormack. With the exception of Crile and Deaver all these can be classed as from the South. No praise of any of these men could be extravagant. However, since all of them are so well known by all informed doctors, I shall not attempt to discuss them and their special accomplishments. All of them lived to ripe maturity; some of them reached old age. They are gone but their works and influence will live and count for generations. Along with these of national reputation, some of our best at home have fallen too. According to nature's course others will be going soon. Who, of us who love medicine, would look forward to meeting these great and gifted men in a medical reunion? What a gathering that will be! But let us not be impatient. I, for one, feel that the occasion would be lacking and incomplete if it should not include our own Matas. The past, though glorious, is gone and what the future in medicine shall be depends on us who yet live. The great and illustrious in medicine made their lives sublime, and their footprints well may be guide posts to be passed perchance by some few who yet live. For, let us remember, medicine is not a fixed science but is progressive. Only recently biotin has been synthesized. This may mean little, maybe nothing. Formerly a quarter of a ton of egg yolk was required to furnish a few grains. Now by synthesis a limitless supply may be produced. Then penicillin seems to have been made available. Let us hope that when our time comes to join those who have gone on, we may be privileged to tell them that great things have come to pass since they left us. Let us not cease to labor.

Aberdeen is the meeting place for the Monroe session of the Northeast Mississippi Thirteen Counties Society this quarter. The meeting will be held on the second Tuesday in September. Aberdeen is easily reached over good roads and every facility for a good meeting will be provided. A good program has been arranged. Dr. M. Y. Dabney, editor of the Southern Medical Journal, will be our guest speaker. We have not, previously, had this honor. The entertainment will be furnished by the members of the Monroe County society. Any doctor will be welcome and all our members will be expected to attend. Do not forget that the Women's Auxiliary will meet simultaneously. Dr. Walker, of course, will meet with the ladies.

Mark your calendar—Tuesday, September 14. Your presence will be to our mutual gain; your absence will be our mutual loss .

—G. S. B.

News and Comments

MISSISSIPPI STATE MEDICAL ASSOCIATION

To all to whom may come these presents
GREETINGS

Be it known that by resolution of the House of Delegates and this Association in its thirty-ninth annual session assembled in Jackson, Mississippi, this written instrument is authorized.

CERTIFICATE

TO RECOGNIZE THE FIRST CLINICAL USE
IN 1903 BY

DR. P. W. ROWLAND
University of Mississippi

OF THERAPEUTIC OXYGEN BY CATHETER DEEPLY IMPLANTED IN THE NASO-PHARYNX TO MITIGATE THE ANOXIA OF LOBAR PNEUMONIA

WHEREFORE, it is the firm and well considered conviction of this body that he merits this recognition of priority for such an accomplishment. It is pertinent in this connection to express the recognition by this body of his services to the state of Mississippi as physician and teacher in which capacities he has long and consistently displayed undeviating ethics and integrity which has been an inspiration to his colleagues and to his students.

IN TESTIMONY WHEREOF, we, the House of Delegates of this Association, by virtue of the authority in us vested have this day signed and delivered to him this certificate and have thereto set the seal of this Association.

Given at Jackson, Mississippi, this the 12th day of May in the year of our Lord 1942.

H. LOWRY RUSH, President
E. LEROY WILKINS, President-Elect
J. RICE WILLIAMS, Speaker
T. M. DYE, Secretary

JONES COUNTY MEDICAL SOCIETY

The Jones County Medical Society held its monthly meeting in the auditorium of the Jones County Health Department Thursday night, August 5, 1943. New officers were elected, Dr. H. L. Boone, retiring president, being replaced by Dr. Jim B. Jarvis, Dr. J. R. Kittrell succeeding Dr. G. E. Holder to the vice-presidency, and Dr. T. Paul Haney reëlected secretary and treasurer.

It was decided that the meetings would be changed from the first Tuesday in the month to the first Thursday night in the month. Dr. T. Paul Haney said that since summer vacation period is over, the meetings will be held regularly. There was no scheduled program but general discussions of problems of local interest were held.

MISSISSIPPI NOW HAS 234 DOCTORS IN THE ARMED FORCES, AND 1193 STILL IN PRIVATE PRACTICE

A quota was set in each state for the recruiting of doctors, and the states were not supposed to go beyond these quotas. In many cases they did. Procurement and assignment committees in two Southern states were not even aware of their quotas until they were oversubscribed. Another factor in uneven withdrawals was the failure to establish the quotas until after the Army recruiting teams began their work of urging doctors to accept commissions.

As of December 1, 1942, 38 states and the District of Columbia had gone over their quotas. Alabama went 109 per cent over; Arizona, 64 per cent over; Arkansas, 27 per cent over; Colorado, 28 per cent over; Delaware, 59 per cent over; District of Columbia, 4 per cent over; Florida, 23 per cent over; Georgia, 54 per cent over; Idaho, 73 per cent over; Illinois, 2 per cent over; Indiana, 35 per cent over; Iowa, 27 per cent over; Kansas, 23 per cent over; Kentucky, 70 per cent over; Louisiana, 118 per cent over; Maine, 32 per cent over; Maryland, 14 per cent over; Michigan, 50 per cent over; Minnesota, 5 per cent over; Mississippi, 63 per cent over; Missouri, 15 per cent over; Montana, 22 per cent over; New Jersey, 18 per cent over; New Mexico 129 per cent over; North Carolina, 65 per cent over; North Dakota, 14 per cent over; Ohio, 24 per cent over; Oklahoma, 35 per cent over; Oregon, 24 per cent over; Pennsylvannia, 5 per cent over; South Carolina, 76 per cent over; Utah, 21 per cent over; Virginia, 42 per cent over; Washington, 40 per cent over; West Virginia, 61 per cent over; Wyoming, 71 per cent over.

Nine states as of December 1, 1942, were under their quotas: California, Connecticut, Massachusetts, Nebraska, Nevada, New Hampshire, New York, Vermont, Wisconsin. Rhode Island had just 100 per cent of its quota. P. and A. has announced that recruiting of physicians for the armed forces during 1943 will take place only in those states where no overall shortage of physicians exists.

(From *The Doctor Shortage and Medical Care of Civilians in Wartime*, OWI Report No. 2, March 29, 1943).

CONCERNING THE WAGNER BILL

This is copy of a letter recently sent to each Mississippi senator and congressman.

Although this letter is the result of our reading an abstract of the Wagner-Murray Digell Social Security Bill which is Senate Bill No. 1161 now pending, and was originally introduced in the House by Represensative Dingell of Michigan, and particularly that section of the bill relating to medical and hospital service, we are not writing you as doctors because we do not believe that doctors should have any selfish interest in the proposition. On the other hand we would like to write as what seems to be forgotten Americans who still hope that our country may yet return to government by elected representatives rather than to continue drifting further into government by the directives of bureaucratic appointees, disregarding the will of Congress, a practice common to all totalitarian states.

At a glance this bill which would yield an estimated $12,000,000,000 annually and would offer the American people security from womb to tomb might seem attractive. On the other hand the people would have to provide the $12,000,000,000. The workman's payroll would be taxed six per cent. An additional six per cent of the workman's payroll would be collected from the employer, which he must pass back to all consumers as additional cost of producing the goods which consumers must have. All of this is in addition to other obligations which our people must meet and which include payroll tax deduction, war bond purchase deduction, ad valorum tax, privilege tax and other taxes, rent, and the expense of ordinary living, without mentioning the pursuit of happiness. Also this enormous fund would be administered by bureaus manned by appointees. The people or their representatives could have but little voice in the operation. In other words it would seem that we cannot keep our freedom and at the same time barter it away. We cannot have our cake and eat it too. We must choose between representative government which offers a legitimate amount of individual freedom along with whatever amount of security we may have the energy and ambition to provide for ourselves, we must choose between that and bureaucratic paternalism, national socialism, or whatever you want to call it.

Obviously the productive capacity of the United States is sufficient to provide for the primary needs of all its population. If all of us were condemned to serve as inmates of an enormous government-operated poorhouse and were to continue to work as we are now doing, we should certainly all be free from rudimentary want. This might be a satisfactory way of living to some; but wouldn't most Americans consider the cold charity of government-dispensed paternalism the epitomy of want? Would that be a bargain if we buy and pay for it with both our dollars and individual freedom included in the price?

Section 904 of Senate Bill No. 1161 would establish a National Advisory Medical and Hospital Council to consist of the Surgeon General of the Public Health and sixteen members appointed by the Surgeon General. Apparently all power and authority to deal with health affairs is vested in one man, the Surgeon General.

While members of Congress have frequently requested the American Medical Association for information on subjects pertaining to medicine and health, the Journal of the American Medical Association (June 26, 1943) states that none was requested by the farmers of the medical section of this bill. There is also apparently no plan for the medical profession to have a voice in administering the medical provisions of the bill other than to follow the directions of its masters in Washington. Yet, if the time should come when a bureau in Washington does begin to deal out the services of the American medical profession, don't you think the doctors might decide to have something to say about it?

We are all in favor of every legitimate measure aimed at improving and extending facilities for care of the unfortunate sick, and are sure that you are. Don't you think we could accomplish such improvements and expansion in a manner more American than that provided for in Senate Bill No. 1161?

Signed:

L. J. Clark, Guy C. Jarratt, Richard Fenstermacher, Preston S. Herring, A. Street, G. M. Street, D. P. Street, J. A. K. Birchett, Jr.

BENEFITS MISSISSIPPI HAS DERIVED FROM THE SELECTIVE SERVICE SYSTEM

Col. Lawrence W. Long

Selective Service began its operations in December 1940. Its main purpose at that time was securing manpower for the armed forces. As State Medical Officer, it was my problem to carry out the mission of the Medical Department of the United States Army. The accomplishment of this mission revolves on three factors: (1) Selection and enrollment of those physically fit for military services; (2) Maintenance of health of military personnel by application of preventive medicine; (3) Furnishing to the disabled such aid in the form of evacuation and hospitalization as would speedily restore them to health and fighting efficiency.

We realize that in the beginning service in the armed forces was merely for training. Now it is for war which has spread to all countries of the world. Selective Service in its examinations which were begun in December 1940, was primarily concerned with selection and enrollment of those physically fit for military duty. Preventive medicine has, also, played a great part in our joint program.

Selective Service is concerned with many factors, but I would like to discuss with you those factors pertaining to the benefits derived from a rehabilitation program which I originated. There are many hundred examining physicians and dentists and medical advisory board members who have assisted in this problem. In our examinations we soon found the problem requiring the application of preventive medicine. Venereal disease was the first thing that we encountered along these lines. The examinations conducted now have totaled approximately one hundred ninety-five thousand men. This consists of approximately one hundred ten thousand negroes and eighty-five thousand whites. In examination of the negro, we found in the beginning that the incidence of syphilis was approximately twenty-eight and five-tenths per hundred as compared to two and six-tenths per hundred in the white. I am gratified to report that of the twenty-six to twenty-eight thousand negroes who have been found to have syphilis, that approximately twenty-four thousand have been under compulsory treatment, many for a period of eighteen months. The rate of syphilis as discovered by the examinations during the month of March reveals that the incidence has dropped from twenty-eight and one-half per cent to seventeen and one-tenth per cent, and from the white to two and one-half per cent to one and one-tenth per cent. This reveals to us the remarkable control of a disease which was heretofore declared almost uncontrollable. This has been done with the coöperation of the State Health Department and the United States Public Health Service. During the month of March, one thousand four hundred thirty-seven spinal examinations were done, and as the State Laboratory can tell you, by far the majority of all of them are negative. These men are being inducted into the armed forces at the rate of one thousand to one thousand five hundred per month who have not been acceptable heretofore. I pause to pay tribute to the excellent coöperation of our Health Department in solving our problems.

The problem of tuberculosis was encountered. With the coöperation of Dr. Boswell and the state sanatorium, consisting of his clinicians and one chest surgeon, all suspicious cases of these one hundred ninety-five thousand registrants who, by x-ray or physical examination, have shown any trouble, have been tendered to this institution and many hundreds with active tuberculosis have been isolated. Approximately seventy-six hundredths of one per cent have been noted to have tuberculosis. This is the age group in which we are able to do something with the cure of this dreaded malady.

Mental and nervous diseases have caused us, as well as the armed forces, some considerable difficulty. Many have been referred to the state hospital with the kind coöperation of Dr. Schmidt, and Dr. Speck's staff has ably aided us in screening these men out and placing them under proper treatment.

Illiteracy has been found to be quite a problem in our state, and approximately three thousand men who could not read, write, and understand the English language equivalent to a fourth grade education have been rehabilitated to the fourth grade level.

Through the Vocational Rehabilitation Department, many hundreds of permanently defective registrants have been trained after rejection by the armed forces. During the month of March one hundred thirty registrants were placed in training for work in defense industries.

These are some of the problems that we have encountered and have solved. Of the one hundred ninety-five thousand examinations, genito-urinary and venereal diseases lead in the cause of rejection, accounting for thirty-three and nine-tenths per cent. Illiteracy is second, accounting for twenty-one and nine-tenths per cent; and nervous and mental diseases are third, accounting for twelve and six tenths per cent. Musculo-skeletal system, abdominal diseases, including hernia and other numerous classifications, and so on down the list. These defects in order named continue from month to month to be the greatest cause for rejection and the relative ratio of each cause remains approximately the same.

In outlining to you some of the problems that have been met and their solution, it seems to me that only one conclusion can be drawn from the whole plan. It is that we are aiding the health situation in our state in a way it has never been aided before. The public is being benefited in every way to produce a more virile race of individuals. We are, also, able to reclaim for the armed forces many of these men. Mississippi is aiding the United States Public Health Service and the State Department of Health as it is aiding us. The Department of Education is coöperating well.

I wish that I could give you the exact figures in regard to the number of men that we have in the armed forces, but this information is confidential and cannot be released at this time. I can say to you that Mississippi is supplying its quota of white and negro registrants in porportion to its population which is forty-nine and one-half per cent negro, and for the two years of operation, we have in twelve hundred more white men than we should have and seven hundred less negroes.

Deaths

DR. M. L. MONTGOMERY

M. L. Montgomery, Louisville, Miss., the health officer of Winston County, brought his wife to a Memphis hospital. He remained at her bedside almost constantly, even while other physicians were treating her for a lung affliction.

After the physicians had left, Dr. Montgomery walked over to his wife's bed and said, "Don't be alarmed, honey, and don't feel blue. You'll be all right."

Then he turned and fell across another bed near by. A few seconds later Dr. Montgomery was dead, the victim of a heart attack. August 11, 1943.

Dr. Montgomery was born in Lawrence County, Alabama, March 11, 1882. He received his medical education at Mississippi Medical College, Meridian, where he was graduated in 1910. He had been part-time health officer for Winston County since April 1940.

DR. J. F. McCALEB

Dr. J. F. McCaleb died at his home near Carlisle following a long illness. Funeral was held on July 28 at Port Gibson.

Dr. McCaleb was born in New Orleans on November 26, 1866, the son of Edward Howard, a prominent lawyer of that city a half century ago. He was educated by the Jesuits in New Orleans and Spring Hill College, Mobile, Ala. Successively the degree of A. B., and A. M., and Ph. D. were awarded him, and later he was graduated in chemistry at the University of New Orleans.

He began his career as a physician in Plaquemines Parish, La., and engaged there in orange culture. On account of ill health he moved to Claiborne County in 1895, and settled on Cold Springs plantation which formerly belonged to his ancestors. Here in addition to his farming interests he practiced his profession. Later he moved to Byrnemore plantation where he died.

Dr. McCaleb wrote many historical articles for various publications, and was an authority on the Natchez Trace, writing many articles on this famous old Indian trail for the *Port Gibson Reveille*.

The deceased was married to Miss Undine Byrnes, daughter of the late Charles Ralston and Catherine Brynes of Belvidere plantation, who with two children, Katherine and William McCaleb, survice him. One son, James, died early in life. Surviving also are three brothers, Edward Howard McCaleb, and Joseph A. McCaleb, of New Orleans; and Thomas McCaleb of California, and a sister, Mrs. Walter Flavius McCaleb of Cleveland, Ohio.

DR. DAN R. GUNN

Dr. Dan R. Gunn passed away at his home in Memphis Saturday morning following a long illness. He was 56.

A native of Okolona, Dr. Gunn was a member of a prominent Chickasaw County family. He was a son of the late W. B. and Zadie Green Gunn.

He was graduated from the University in 1908 and from the Memphis Medical College in 1910. In 1921 he established Guthrie's Pharmacy in Memphis. Because of ill health he retired in 1942.

He leaves his wife, Mrs. Esther Nolen Guinn; two sons, Dan Gunn, Jr., instructor in aviation at Jonesboro, Ark., and Charles W. Gunn, in the Medical Corps of the Air Forces, Sheppard Field, Texas; his sister, Mrs. Victoria Goyer, Germantown, Tenn., and his brother, A. E. Gunn, Memphis and Little Rock.

DR. ARTHUR THOMAS McCORMACK

Dr. Arthur Thomas McCormack, Louisville, died of acute heart attack Saturday night, August 7. He was born at Howard's Mill in Nelson County, Kentucky, August 21, 1872. Dr. McCormack was State Health Commissioner of Kentucky and secretary of the Kentucky State Medical Association. He was president of the Southern Medical Association 1939-1940 and at the time of his death was a member of its board of trustees. He had an almost unbroken record of attendance at Southern Medical Associations meetings—few physicians attended as many meetings as he had.

Dr. McCormack has been honored by many medical and lay organizations. He has been president of the American Public Health Association, of the Conference of State and Provincial Health Authorities of North America, of the Medical Veterans of World War, of the Association of Military Surgeons, et al. He was in World War I, serving as chief health officer of the Panama Canal Zone, being sent to Panama by General Gorgas when he (Gorgas) was made Surgeon General.

Dr. McCormack succeeded his father, the late Dr. J. N. McComrack, as the Kentucky State Health Commissioner in 1912. Dr. J. N. McCormack organized the state health work in Kentucky sixty-four years ago and he and his son, Dr, Arthur, have been continuously in charge of the State Health Department of Kentucky for those sixty-four years.

Funeral services were held in Louisville Monday afternoon, August 9, internment in the family cemetery at Bowling Green on Tuesday afternoon. Many notables in the medical, political and civilian life of Kentucky and other states were in attendance upon his funeral. Surviving Dr. McCormack are his wife, Mrs. Jane Teare McCormack, Louisville, and his daughter, Mrs. Mary T. Wilburg, Warrenton, Virginia.

Dr. and Mrs. McCormack lived at the Brown Hotel, Louisville.

FOR SALE—At a sacrifice: One large, almost new Cambridge Electrocardiograph costing $1250.00. Will sell for $800.00. Husband in service, Mrs. H. A. Whittington, 405 Franklin St., Natchez, Miss.

FOR SALE—Medical Library of the late Dr. J. A. Price for sale at $75.00. Any information about it can be obtained by letter to Mrs. J. Addison Price, Germantown, Tenn., or by telephoning 31-7334.

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KNOCK!

You doctors will be interested in the calls I'm making now. I'm organizing "Health for Victory" clubs among employees of all large war plants urging nutritious meals to keep these essential home front soldiers healthy and on the job. Yours for victory—REDDY KILOWATT. (Your electrical servant).

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County Society	President	Secretary	Time of Meeting
Adams	J. S. Ullman, Natchez	L. S. Gaudet, Natchez	Third Tuesday 7:30 p.m.
Alcorn	Dr. W. A. Johns	Dr. William David May	Third Friday 6:30 p.m.
Amite	D. H. Thornhill, Crosby	W. T. Thornhill, Crosby	Second Thursday 7:30 p.m.
Central	H. C. Ricks, Jackson	J. G. Thompson, Jackson	First Tuesday 6:30 p.m. July and August
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Clarke-Wayne	W. P. Gray, Waynesboro	Albert Hand, Shubuta	
Coahoma	L. H. Brevard, Clarksdale	Julius L. Levy, Clarksdale	
Coast Counties	B. Z. Welch, Biloxi	D. L. Hollis, Biloxi	1st Wed. each month
Delta Medical	J. D. Simmons, Cleveland	J. C. Runell, Jr., Cleveland	Sec. Wed. April & Oct., 2 p.m.
Desoto	C. W. Emerson, Hernando	L. L. Minor, Rt. 4, Memphis	First Mon. Jan., Apr., Jul., Oct.
East Mississippi	W. R. Hand, Philadelphia	N. C. Knight, Meridian	Quarterly
Franklin	Linfield Costley, Meadville	R. Costly, Meadville	
Issa-Shar-War.	H. H. Johnston, Vicksburg	W. K. Purks, Vicksburg	
Jefferson	B. R. Clark. Lorman	W. T. Harper, Fayette	Second Thursday
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Pike	W. F. Cotten, McComb	W. F. Cotten, McComb	First Thursday
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Interpreting Medical Literature

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Discussion and comments.

PEDIATRICS

"COMPARATIVE SPEED OF RESPONSE OF PREVIOUSLY IMMUNIZED AND NONIMMUNIZED CHILDREN TO FLUID AND ALUM-PRECIPITATED DIPHTHERIA TOXOID"—Vladimir K. Volk, William Edward Bunney and John T. Tripp—American Journal of Public Health, 33:475 (May) 1943.

"In an earlier paper preliminary observations were reported suggesting that those previously immunized would respond quickly to a single injection of either fluid or alum-precipitated diphtheria toxoid. It was felt that this observation might be of value to the health officer faced with an epidemic of diphtheria in a partially immunized community. He might be well advised to give a single injection of fluid or alum-precipitated toxoid to all those with a history of previous diphtheria immunization. This study was designed to give more conclusive evidence on the quickness of the response of previously immunized children and to determine whether there was any difference in the quickness of the response following fluid as compared with alum-precipitated toxoid."

"The antitoxin content of the blood of the children was determined just before the reimmunization injection and at 5 and 10 days after the injection. A control group of children with no history of previous immunizations was also studied. The reimmunizing injections were 0.5 ml. of fluid or alum-precipitated toxoid."

"The total number of children with a history of previous immunization included in the study was 112. . . . Most of the children were 6 to 9 years of age at the time of primary immunization and were reimmunized approximately 4 years later."

Results in this study suggested that fluid toxoid is just as effective as alum-precipitated toxoid in bringing about a quick response in those previously immunized. "This is in sharp contrast with the greater effectiveness of alum-precipitated toxoid in primary immunization."

The authors state that the influence of the nature of the primary immunization on the reimmunization response was evaluated.

"Although the numbers studied are small, it would appear that if at least one injection of alum-precipitated toxoid or 2 injections of fluid toxoid are given in primary immunization, a quick response will result in reimmunization of children with less than 0.001 unit at the time.

"One important question is, 'How long after primary immunization will children respond quickly to a single 0.5 ml. injection of fluid or alum-precipitated toxoid'?" The results were analyzed with this in mind.

Here again the figures in each group were small but there was no indication of a falling off in responsiveness after 5 years even in those children with less than 0.001 unit of antitoxin at the time of reimmunization.

"It would seem reasonable in the light of these results to advise giving a single 0.5 ml. injection to all previously immunized children when faced with a possible diphtheria epidemic in a community either partially or fairly completely immunized. One would expect this procedure to result in the developing within 10 days of adequate immunity in at least 95 per cent of those whose primary stimulation was given less than 6 years before. Responsiveness to reimmunization may very well last longer than 6 years, but this study reports no data on this point.

The authors state that this procedure may result in the saving of time and money in the control of an epidemic . . . The children receiving the reimmunizing injection will have an increase in their antitoxin titer which will protect them for a long time—a decided advantage over the use of prophylactic antitoxin which protects for only a few days and moreover may sensitize the child so as to make subsequent injections of any antitoxin of horse origin difficult if not dangerous."

COMMENT

This report is interesting particularly for two reasons: First, it shows a definite amount of immunity from first injections for over six years, and second, that to follow with small injections of ½ cc. toxoid to those previously immunized would be sufficient in presence of epidemic.

"PROPHYLACTIC USE OF SULFANILYLGUANIDINE IN A DYSENTERY OUTBREAK"—Pascal F. Lucchesi and Nathaniel Gildersleeve—Journal of Pediatrics, 22:319 (March) 1943.

"That sulfanilylguanidine is a satisfactory therapeutic agent in certain forms of bacillary dysentery has been demonstrated by several workers." The present writers' results appear to confirm their findings.

"Prophylactic Use."—The writer says that on November 9, 1941, a five-year-old girl in one of the scarlet fever buildings of the hospital developed fever, cramp-like abdominal pain, and diarrhea with mucus and blood in the stools. The bed was immediately screened, stools and bedding disinfected, and the child established on a strict isolation technique, although stool cultures were negative for typhoid and dysentery organisms. Despite these precautions, a second case developed three days later. This was followed by an outbreak in three children, occurring on successive days in an adjoining cubicle. From the stools of two of these patients a dysentery organism was isolated by the city laboratory. The organism proved to be a gram-negative nonmotile bacillus with the fermentative reaction of Shigella dysenteriae (Flexner) but failed to show consistent agglutination with any of the usual types of dysentery serum.

"Three days later two more children developed fever, abdominal cramps, and diarrhea. These children were located in cubicles adjoining those in which the previous cases had developed. On November 19, ten days after the first case had developed, eighteen new cases appeared in seven of the twelve cubicles in this immediate vicinity."

The problem which then confronted one was serious. "The building at this time contained one hundred and eighteen children, all confined to bed with scarlet fever. These children were grouped in separate cubicles, each one accomodating from six to nine patients. The cubicles opened onto a hallway which ran the length of the building. Fortunately, all of the cases of dysentery had developed in cubicles in the north half of this building. This made it possible to staff this portion separately with its own nurses, attendants, and maids. By this complete isolation it was hoped to prevent the spread of the infection to the south half of the building which housed forty-eight patients.

"The limitation of the spread to adjoining cubicles also gave an indication of the route of infection by narrowing the search for the source. It seemed unlikely that central kitchen, milk, or water supply contamination would involve only the patients in the north half of a single building, and this was borne out by the failure to culture organisms from water, ice, and food. Further investigation failed to reveal any of the ward personnel with gastro-intestinal symptoms except one person who had a mild transient diarrhea. Examination of the stool in this case proved negative for dysentery organisms, and the loose stools subsided in less than twenty-four hours.

"Flies present in the building were trapped and cultured for dysentery organisms with negative results.

"It thus appeared that infection was spreading from patient to patient, this supposition being more definitely demonstrated by the future course of the outbreak." It was felt that the patients in this area where the spread was occurring were in great danger of developing dysentery superimposed on scarlet fever, and serious results with possible fatalities were anticipated. For this reason the forty-five children exposed in the north half of the buildings, thirty of them being from cubicles in which a case of dysentery had developed, were given a prophylactic course of sulfanilylguanidine. This course consisted of the administration of 0.05 gm. per kg. of body weight every four hours for one day, then every eight hours for two days.

"The results were most gratifying. No cases of dysentery developed in this group of forty-five patients. One patient developed slight fever with four stools two days after the institution of sulfanilylguanidine but failed to show mucus, blood, or dysentery organisms."

The author says that "As previously mentioned, the south wing of the ward had been considered protected by its segregation from the north wing (infected wing) of the ward. In this group of patients who were not given a prophylactic course of the drug, four cases of dysentery did develop during the succeeding five days. These patients who developed the disease were immediately treated with sulfanilylguanidine, and no further spread occurred.

"Therapeutic Use.—A total of twenty-nine children between two and twelve years of age were treated. All showed fever, diarrhea, and mucus in the stools. Most showed blood and pus as well, but the dysentery organism was isolated in only four patients. The clinical diagnosis was confirmed in most of the remaining twenty-five patients by the demonstration of antibodies during the convalescent period."

It is stated that no patient receiving sulfanilylguanidine from the onset had more than five stools daily for a longer period than two days! Indeed, in twenty-three of these twenty-five patients treated, the stools were reduced to less than five daily before twenty-four hours had elapsed. The average time for complete cure was three days in the treated group, while the four untreated patients had averaged eight days for cure."

"Dietary treatment of all cases consisted of weak tea, ripe banana, scraped apple, fruit juice, and, in a few cases, a kaolin-pectin mixture."

COMMENT

The therapeutic use of sulfanilylguanidine in the treatment of dysentery is well known to most of us, but this seems to be a new angle on the use of the drug to prevent the spread of the disease, which after all, and particularly in the cases reported in this article it is quite important to think about. The value of using this drug therapeutically in many cases is almost as spectacular as that of the sulfonamides in the treatment of pneumonia and other infectious diseases.

—H. F. G.

State Board of Health

Felix J. Underwood, M.D.

MALARIA CONTROL IN WARTIME

Mississippi has made excellent progress in recent years in reducing the incidence of malaria in the state; however, the war has thrown into bold relief the imperativeness of complete conquest of this disease in order to eliminate the hazards which it is capable of invoking upon the military effort. So devastating have been its effects in past wars and so threatening are its possibilities in this one that every precaution is being taken to reduce its incidence to a minimum. Prevention becomes increasingly important in the face of a shortage of quinine for treatment. Further, it is pointed out that there is no drug yet available which will prevent malaria or eradicate an infection. The anti-malarial drugs now in use, quinine and atabrine, are useful only in controlling the acute attack and if an individual succeeds in finally throwing off the infection it is the result of his own defensive mechanism. Therefore, the most logical preventive measure is to attack the disease at its source and destroy the vectors which are responsible for its spread, in this section the *anopheles quadrimaculatus.*

Since May, 1936, a large part of the malaria control program of the State Board of Health has consisted of the construction of concrete ditches, the laying of underground tile or drains, and the filling of swamps and ponds for the elimination of these mosquitoes. Many miles of concrete ditch were constructed and many mosquito-breeding areas were destroyed. That this permanent work has proved a major contribution to present military preparations there can be no question, to say nothing of the innumerable cases of malaria which were prevented in the state as a result of such measures.

To protect the troops, industrial workers, and others now in the state, malaria control activities have been intensified, especially within a one-mile radius of all cantonment areas and industrial establishments of military importance. In these one-mile protected zones, mosquito-breeding areas are ditched and drained; and where this is impossible, oil, Paris green, or pyrethrum is applied to kill any *anopheline* larvae. Periodic inspections are made to check the effectiveness of control measures.

To get an idea of malaria incidence among civilians near war communities a blood film survey was made in the fall of 1942 on children attending schools in the war areas. Of 6,039 slides examined only 18, or 0.29 per cent, were found positive for malaria parasites. This figure shows gratifying progress in the fight against malaria, when compared to figures of 3.1, 6.7, and 3.9 of previous surveys. However, as long as one single case exists, surrounded by a population of susceptible hosts, and the mosquito vectors are left uncurbed, an epidemic of serious proportions could occur. Therefore, there will be no relaxation of effort to bring the disease completely under control.

Should control efforts become lax because of the absence or low incidence of malaria in this country, the return of infected troops from the many malaria-infected regions of the world would likely initiate serious epidemics. The tolerance which may have been developed against strains of malaria already in this country would confer little or no immunity against new strains which might be introduced. Coggenshall[1] cites as an example of what can happen the events which transpired in Brazil in 1930, when *anopheles gambiae* was accidentally introduced. There soon followed a malaria epidemic which cost at least 14,000 lives in one year, with more than a hundred times that many cases. It cost the Brazilian government and the Rockefeller Foundation approximately $2,500,000 to eradicate this vector—and this cost is small compared to the economic loss and devastation which might have resulted had this species of mosquito been able to spread to other areas including our own United States. Today, with the tremendous air traffic operating from the tropics to all areas of the world and with no completely successful methods as yet for preventing the transportation of mosquito vectors or infected individuals to malaria-free zones, the disease becomes one of paramount importance to the welfare of all nations. The continued application of the best known measures of control is expedient for everyone.

The Mississippi State Board of Health points with gratifying pride to its accomplishments during the biennial period ending June 30, 1943. In coöperation with the United States Public Health Service, a program of malaria control in war areas has been conducted, under which five major drainage projects were undertaken during the winter months of 1942-1943.

At the end of the biennium some thirty-one military areas and war industries were included in the program, the United States Public Health Service providing engineers, entomologists, engineering aides, administrative assistants and clerical help. Crews used for larviciding operations during the summer constructed 7,350 feet of ditches in the Clarksdale area, eliminating 8¼ acres of water surface. An important project near the Laurel Air Base constructed 27,210 feet of ditches draining 55.3 acres of water surface. In the Petal-Harvey area near Hattiesburg, 9,825 feet of ditching eliminated much potential mosquito breeding water surface. The construction of 4,000 feet of ditch and 1,890 feet of underground trench drains eliminated a large seepage area near the Columbus Air Base and completely drained approximately ten acres of swamp land. Also near this base, 10,000 feet of ditch was constructed to drain completely a 3-acre pond and approximately 20 acres of cypress swamp. Excellent work, requiring little material, including an open-earth drainage project near the Greenville air base where 19,388 feet of ditches was constructed, draining 200 acres of heavily wooded flat lands and eliminating an extensive permanent *anopheles quadrimaculatus* breeding source.

Permanent type drainage carried on by the State Board of Health with the aid of the Works Progress Administration prior to entry into the war materially reduced the necessity for emergency larvicidal work at many points. One of these was as Key Field at Meridian, where 14,294 feet of concrete invert and 3,600 feet of open earth ditch was constructed during the 2-year period in water courses within flight range of the field's barracks. Minor operations during the winter months eliminated approximately three acres of water surface by draining lakes, sloughs and swampy areas along Okatibbee Creek.

In Hinds County the inverting of 11,851 feet of Lynch Creek was planned as malaria protection for the Jackson air base. The importance of this work was accentuated by the construction in this area of the Foster General Hospital and as a result W. P. A. assistance was available until liquidation of the agency caused its discontinuation. They were able to place 4,750 feet of concrete invert, however, with MCWA labor adding 1,669 feet, making a total of 6,419 feet of improved ditch completed. Of 12,000 feet of 14-foot bottom invert approved for construction in the upper reaches of Town Creek in and near the Jackson air base, approximately 3,000 feet was completed under the joint sponsorship of the State Board of Health and the U. S. Army, with field supervision being furnished by the post engineer.

In the city of Hattiesburg a plan was proposed and approved by the W. P. A. for malaria control work amounting to $142,861. Work in this area, however, was discontinued because of a labor shortage after completion of 2,215 feet of reinforced concrete invert. Another area in which manpower shortages prevented extensive operations was the Gulf Coast.

In spite of the numerous labor and material shortages of the past two years a substantial amount of work was accomplished which will prove of lasting benefit to the state and to the nation.

A still further program of control which it is believed will prove very beneficial is one of community education in which individuals will be shown how to take part in eradicating and protecting against malarial mosquitoes. Such a program is now being undertaken in coöperation with the United States Public Health Service with trained malaria educators assigned to do the work. These educators, under the director of the local health department, will organize study groups on malaria, present visual materials on the disease, its mode of transmission and control, promote the elimination of hazards of the anopheles mosquito (with particular emphasis on screening and spraying in own home) and encourage any other control measures which the health officer might consider essential for that particular area.

Malaria has been termed the prime problem of the world. Realizing how profoundly it can affect the lives of individuals and the destinies of nations, eternal vigilance shall be the watchword of Mississippi's public health and affiliated workers to the end that every possible hazard conducive to the spread of this disease may be removed.

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2. Mississippi State Board of Health, Div. of San. Engineering—*Biennial review of malaria control drainage in war areas.* June 30, 1943.

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To wear a cheerful countenance at all times and give every living creature you meet a smile;
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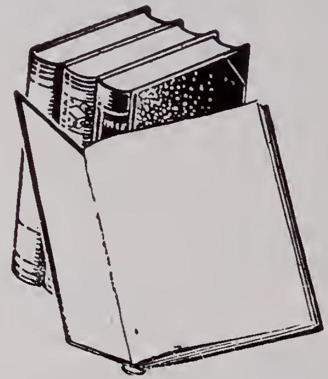

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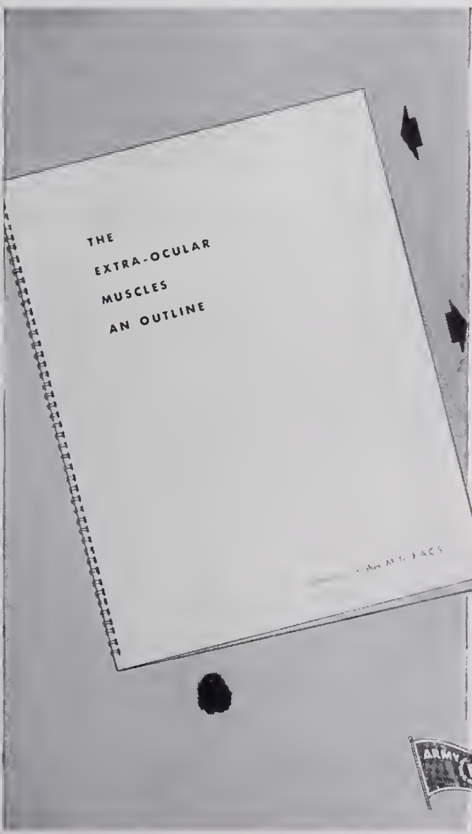

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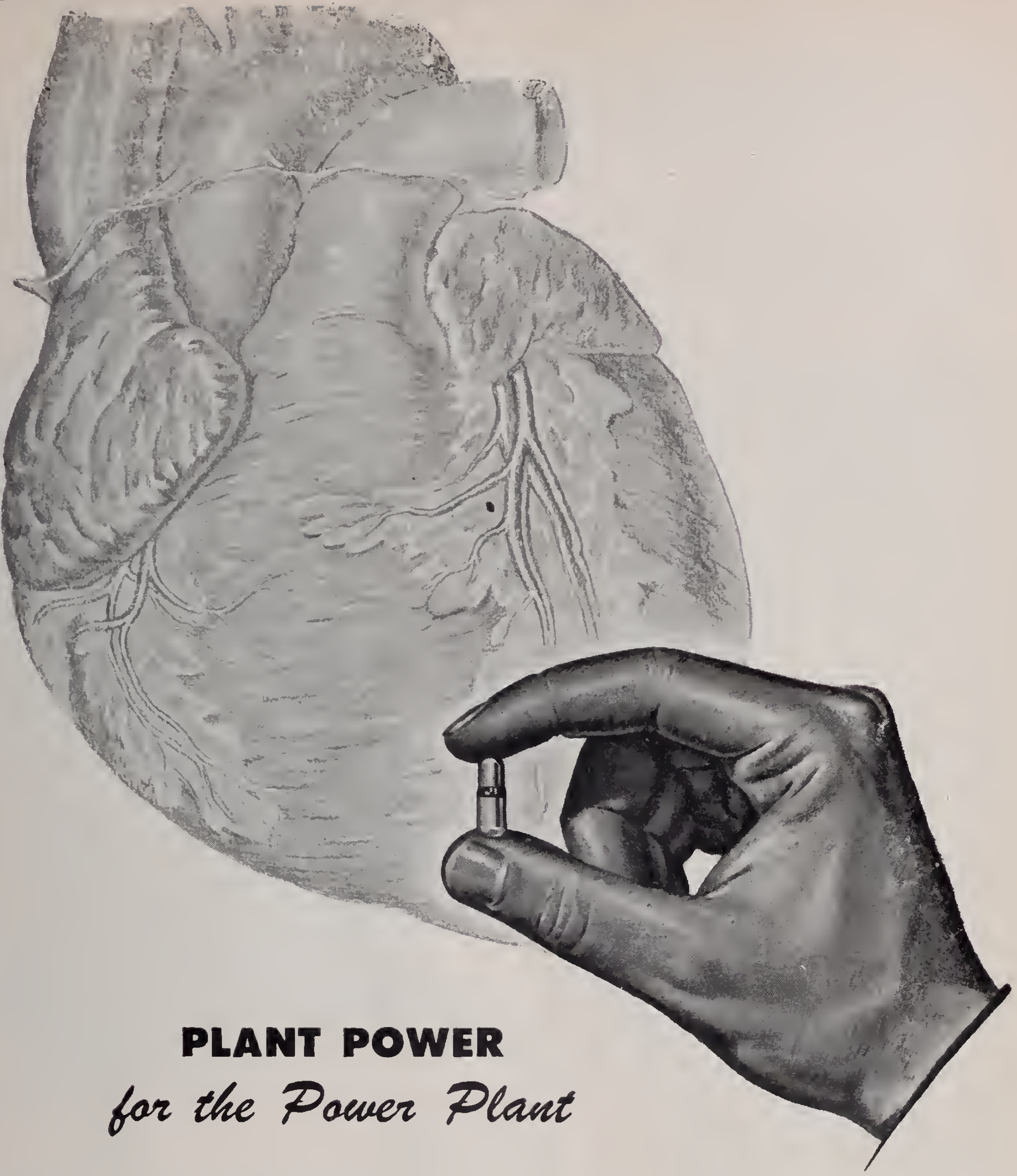

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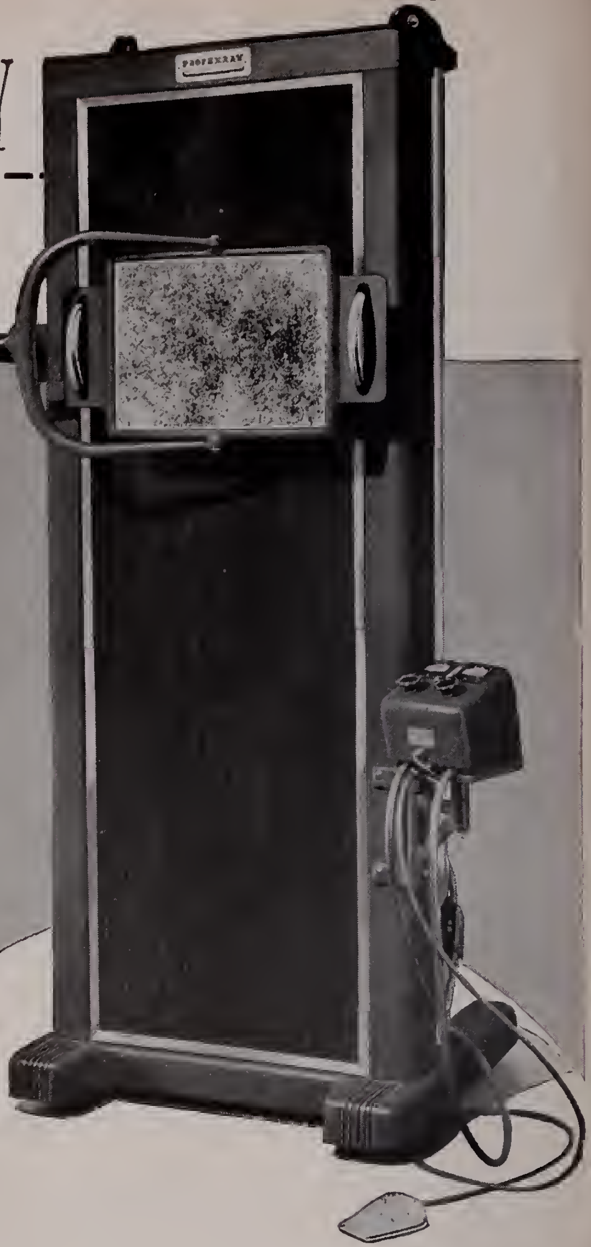

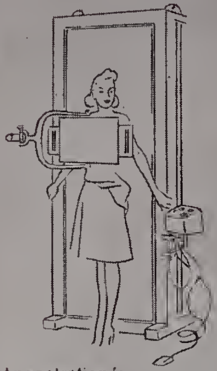

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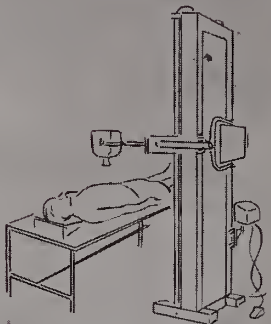

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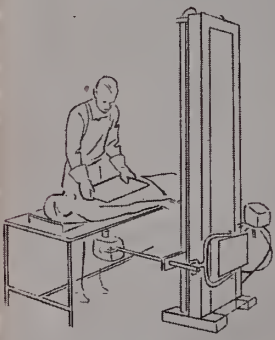

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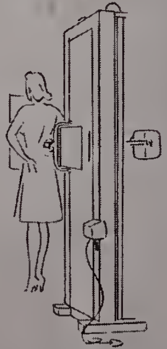

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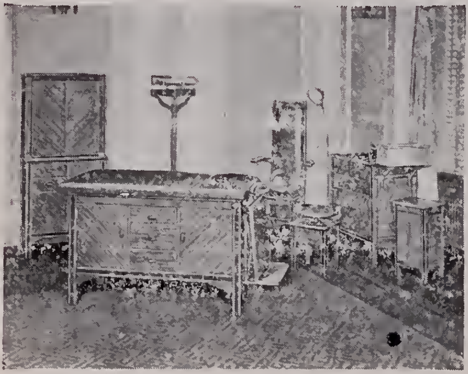

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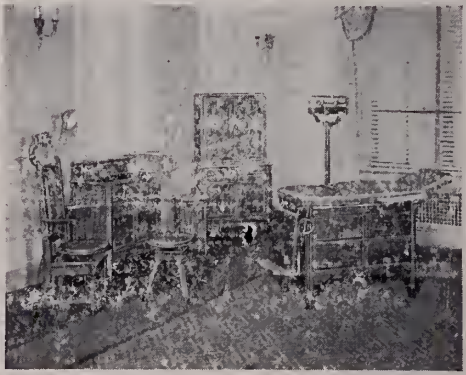

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The Use of Estrogens in Gynecology*

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NEW ORLEANS, LA.

THERE IS a large group of chemical compounds which are capable of producing the estrous phenomena in experimental animals, and when administered to the human female behave in a fashion closely smiliar to that of the follicular hormone of the ovary. These substances are called estrogens. There are two general types of estrogens; the natural or biologic, and the synthetic. The former group are chemically identical with the steroid hormones extracted from the ovaries and other tissues, the latter are synthetic chemicals which bear no chemical similarity to the natural estrogens but exhibit the pharmacologic activity attributable to estrogens. The best examples of this group are the various stillbene compounds, and in particular stilbestrol.

One might make the following generalizations in regard to the synthetic and natural estrogens:

1) The synthetics are cheaper; 2) the synthetics are more effective when administered orally; 3) they are approximately equally as effective by hypodermatic administration; 4) in our experience patients can always tolerate the natural estrogens (theelin, estrone, progynon, etc.), but a certain group of them manifest mild to severe toxic reactions such as nausea, vomiting, or more rarely dermatitis, when given the synthetic drug; 5) for vaginal application we have found the natural estrogens of greater value than the synthetic estrogens, and finally; 6) because of their price, the ease of administration, and effectiveness we routinely use the synthetic estrogen stilbestrol and change to the natural estrogens only on specific indications. In general either the synthetic or natural estrogens can be used for any of the conditions to be discussed, if the aforementioned points are considered.

A word of caution should be given here against the indiscriminate use of these potent drugs which we now have available. We can do as much, or more, harm than good by the injudicious and improper use of estrogens, and one should bear in mind very definitely the limitations and dangers of these drugs when using them. While there is as yet no adequate clinical proof of the carcinogenic properties of the estrogens, there is sufficient experimental data available to contraindicate the use of the estrogens in an individual with strong family history of cancer, and the patient to whom the drug is to be given should always have a careful physical examination to rule out the presence of malignancy. Patients with fibroids or endometriosis must be carefully watched, and frequently examined, if placed on estrogens because of the possibility of stimulating more extensive development of these conditions. Finally, one should be conscious of the possible ovarian damage which large, continuous dosage of estrogens may produce. This is a consideration of particular importance when one considers the use of estrogen therapy in the child, the adolescent, or the young woman.

MENOPAUSAL SYNDROME

The group of patients with menopausal syndrome are probably the most greatly benefited by estrogen therapy. Here there is a clear cut indication for substitutional therapy. These patients present a variety of symptoms, including dizziness, hot flushes, headaches, insomnia, nervousness, irritability, muscle and joint pain, nausea, anorexia, fatigue, depression and frigidity. However, a patient with such symptoms should not be placed on estrogens, and dismissed after merely obtaining a history. She should be carefully examined and all possibilities of organic disease, systemic as well as pelvic should be excluded. She may then be placed on estrogen therapy.

As a routine, we use orally administered stilbestrol, 1 mg. daily. After one week the therapy is evaluated and the dosage increased as necessary. One should not forget that many of these patients will respond very well to simple sedation and this may be tried first, or one may give small doses of phenobarbital or bromide with the estrogen therapy. We usually prescribe ¼ gr. of phenobarbital b. i.d. or t. i. d. along with the stilbestrol. Critics and cynics may well say that a certain percentage of these would improve on tap water. That is probably true. The truth remains that the vast majority of these patients respond well to the therapy of simple sedation and the estrogens. Further, a large number of women who are not relieved of menopausal symptoms by sedation alone will be completely relieved with estrogenic therapy.

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If for the psychic value we decide to administer the drug hypodermatically we may give 1 mg. of stilbestrol once or twice weekly or 10,000 I. U. of natural estrogen (we use estrone or theelin) twice a week. The dosage may be decreased or increased as necessary. While some basic routine is necessary it is important that therapy be individualized. One cannot make rigid rules as to the total dosage or the length of time the drug is to be continued. Some patients respond very well in a few weeks, some require therapy for several months. The scientific use of smears, etc., to indicate full estrogen effect should not be confused with the clinical results which the patient reports.

In general the physiological menopausal patient requires less therapy than the surgical (or radium) menopausal patient. The young castrate usually requires more therapy than either the older surgical menopausal patient, or the patient with physiological menopause.

In addition to the relief of their symptoms patients on estrogen therapy frequently report a sense of well-being, an improved appetite and a relief of anxiety.

After relief of symptoms has been obtained the dosage should be lessened or discontinued Recurrence of symptoms after cessation of therapy frequently occurs. It may be a matter of weeks or months. They improve rapidly when returned to therapy.

Cessation of therapy is not infrequently followed by withdrawal bleeding. This presents a serious problem since the possibility of malignancy or other organic diseases must be ruled out. A careful pelvic examination should always be done in these cases and not infrequently a D&C may be necessary.

HYPOESTRINISM

Young women frequently complain of symptoms which may be attributed to hypoestrinism. They may have slight menstrual irregularities and symptoms suggestive of a premature menopause such as dizziness, headache nervousness, hot flushes, irritability, anxiety, depression and diminished libido. These complaints are usually of a cyclic nature occurring just prior to the onset of the menses. The use of estrogens should be limited to that time. The use of 10,000 I. U. of natural estrogens twice weekly for the week preceding the anticipated first day of menstruation, or the use of stilbestrol 1 mg. daily for the same length of time will usually give relief. In this group perhaps more than any other, careful study of the patient and individualization of therapy is necessary.

SENILE VAGINITIS

Patients may have atrophic changes of the genitalia associated with symptoms of the climacteric, or may have senile vaginitis uncomplicated by the menopausal syndrome. Both types of patients respond well to estrogen therapy. Keratosis of the vaginal epithelium usually occurs promptly with a relief of the pruritis of which most of them complain. Within a week or ten days the vaginal pH shifts to the normal acid reaction. Our results with oral stilbestrol in this group of patients has been good, but we do not feel that the response was equal to that obtained by the use of suppositories of natural estrogens. We use suppositories of natural estrogens nightly for a week to ten days, and decrease the danger by spacing the frequency of applications as the patient reports improvements. The use of lactic acid or vinegar douches to aid in the maintenance of the normal pH is a valuable adjunct.

GONORRHEAL VULVOVAGINITIS IN CHILDREN

The estrogens have been a particular boon in the treatment of vulvovaginitis of children. Their use converts the infantile vaginal mucosa to the resistant fully keratonized adult type which is inpervious to gonorrheal infection. In this condition the synthetic estrogens have been of particular benefit. The use of the oral drug does away with the development of "genital consciousness" in the child which occurs with the use of suppositories. It also simplifies administration of medication since the tablet may be dissolved in milk, and given to the child without detection. For this condition stilbestrol is given, 1 mg. t. i. d. for one week and smears and cultures obtained. It is continued until three consecutive negative smears and cultures are obtained. The rapidity of cure, the absence of toxic effects as well as the ease of administration makes the oral administration of stilbestrol the treatment of choice in this condition. The unpleasant side effects of precocious development of secondary sexual characteristics regress rapidly, and is not a serious objection.

PUBERTAL BLEEDING

The young girl with severe pubertal bleeding frequently presents a difficult problem in therapy. Large doses of stilbestrol may successfully stop the severe bleeding. We use 25 to 100 mg. intramuscularly over a 48-hour period. This may be given in a single or split dose. Following the cessation of bleeding, stilbestrol may be used in a cyclic manner, using 1 mg. daily for the first 21 days of the cycle. The fourteenth to the twenty-first day progesterone is given with the stilbestrol, and on the twenty-first to the twenty-eighth day progesterone is given alone. Thyroid, gr. ¼ t. i. d., is also administered throughout the cycle. This cyclic therapy may be continued for several months and then suspended. In a limited number of cases this procedure yields gratifying results.

While estrogenic therapy may be used to stop the initial massive hemorrhage, and may be administered cyclicly with good results in a reasonably large number of cases, it still fails frequently, and is by no means the final answer to the problem of therapy in pubertal bleeding. The value of thyroid in this, as well as most of the functional menstrual disorders, cannot be too greatly stressed.

SUPPRESSION OF LACTATION

Estrogens may be used successfully in the suppression of lactation. This is particularly true with stilbestrol. The suppression of lactation is largely due to the removal of the suckling stimulus; however, the use of estrogens prevents the painful engorgement of the breasts. Stilbestrol administered in dosage of 5 mg. t. i. d. for the first four days postpartally will adequately suppress lactation in approximately ninety per cent of patients, the remaining group requiring a second course of therapy. If suppression of lactation is desired after the woman has been suckling her baby, it is well to accompany the use of stilbestrol with restriction of fluids for the first two days, and the administration of a saline cathartic. It is not necessary as a rule to bind the breasts. It is interesting to note that for some unexplained reason parturient women are able to tolerate large dosages of the drug without manifesting toxic effects, and one hears the complaint of nausea with the utmost rarity.

There is a large number of ill-defined uses of estrogens, many of them experimental or frankly empirical. However, the foregoing are the conditions in which the use of estrogens have been clearly established.

In conclusion I should like to emphasize the necessity of using the estrogens, particularly the powerful new synthetic ones, with the utmost judiciousness and only in the presence of clear-cut indications. As previously mentioned, estrogens should be used with the utmost caution in the presence of fibroids and endometriosis, and should never be used in the presence of a strong familial history of malignancy, or in patients with malignancy.

Surgery, the Queen of Arts, Has Gone to War

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INTRODUCTION

MAY I TAKE you back with me a few years to refresh your memory? Dr. W. D. Haggard, professor of clinical surgery at Vanderbilt University, taught me and profoundly impressed me with his abilities to speak, act, and perform many fine things in surgery. In October of 1933, he delivered his inaugural address before the Clinical Congress of the American College of Surgeons in Chicago. Its title was, "Surgery, the Queen of the Arts." It was noble, eloquent, and soul inspiring as his lectures could be. He said, "Surgery invokes all the arts as the moon summons her tides. It encompasses all the sciences. Its art is tinctured with the necromancy with which Venus, muffled in mist, kneeling in pity applied the balm to the wound of Aeneas, releasing the dart that could not be imperative. The skilled use of the hands at the behest of the brain, applied to wound and disease, is a service such as that of the angels. The subtlest creation in the world is the human hand in swift confederacy with the mind, blessing both him that gives and him that receives. The arts of sculpture, painting and portraiture are largely imitative and interpretative. The art of surgery is essentially constructive and recreative. It is 'high in strength and wise in works!' "

So from its heroic age under the blue canopy of the Italian skies, through the Renaissance, down through the years to be regenerated in the nineteenth century by the English surgeons, surgery has developed its art. American surgery with its Matas, Murphy, Deaver, Haggard, Keen, DaCosta, Sims, Weir Mitchell, McDowell, Gross, the Mayos and Crile has not lagged behind and now stands at the peak with no peers. It has walked hand in hand with art and science. It has met Mars many times before and walked with him to retrieve from the valley of the shadow of death many worthy men. Not since 1917 have American surgeons been called on to match their skill and art with the gods of war to salvage lives and repair bodies that may again serve a useful purpose.

Wars have through the ages furnished the school of experience for surgeons. The practical and ingenious application of the art under the most desperate and trying circumstances at times is remarkable. Preventive medicine and epidemiology are a great aid to surgery (which is not the main problem of the medical departments of the armed forces.) All members of the armed forces are immunized against tetanus, typhoid, and paratyphoid fever, yellow fever and smallpox. Those going overseas are immunized against bubonic plague and typhus in many instances.

The war in Spain has offered further opportunity for clinical experimentation on modern war wounds. Possibly the greatest single development of that war was the use of the closed plaster method of treatment of wounds, a modification of the "Orr method" as we have known it, of treatment of osteomyelitis. The mortality among wounded men who reach a hospital has steadily decreased with each succeeding war due to advances in surgery and evacuation.

SURGERY IN THE PRESENT WAR

The mission of the medical departments of the armed forces is *conservation of manpower.* The accomplishment of this mission devolves on three factors: 1) selection and enrollment of those physically fit for military duty; 2) maintenance of health of military personnel by application of preventive medicine; and 3) furnishing to the disabled such aid in the form of evacuation, hospitalization, and medical care, as will speedily restore them to health and fighting efficiency. Surgery is one of the main assets in accomplishing this third factor.

The knowledge gained from experience in the previous wars has been well used. The good has been retained, the poor discarded, and the new has been developed.

Outline of Medical Organization: The senior physician at a medical installation is designated the "surgeon." Surgeons in the Army are stationed at the battalion aid stations three hundred to eight hundred yards from the firing line, and in the Navy at battle dressing stations on ship. Back through the collecting stations, clearing stations, surgical hospitals, evacuation hospitals, and general hospitals; in sea warfare comparable to the above, ambulance parties, post combat stations, small ambulance boats, hospital ships, and shore hospitals, are medical officers (surgeons) stationed in charge of such installations. Litter bearers and ambulances return the wounded to the rear for treatment. The ambulatory follow the same plan. Hospital stations and clearing stations are ordinarily four to five miles from the front lines out of range of rifle fire. The mobile unit is one that has developed rapidly because of mechanization and is a big factor in saving the wounded today. Those injured who can be treated satisfactorily at any point in the return to the rear are not evacuated further for emergency treatment. The Army surgical hospital which is established in the neighborhood of the hospital station is the most forward of the hospitals with full surgical facilities for extensive emergency operative procedures. The Army evacuation hospital is completely equipped to give adequate emergency surgery, located at a railhead to the rear. The development of the present plan for evacuation of battle casualties by land, air and sea is meeting the requirements for salvage of manpower and restoration to fighting efficiency. Under Major General Magee, Surgeon General United States Army, Admiral McIntyre, Chief of Bureau of Medicine and Surgery of the Navy, and Brigadier General Grant, Air Surgeon, these liquid, mobile, and rapid plans of evacuation and treatment meet the requirements of the present mechanized, elastic, warfare. This war is one of motion, of mechanized forces moving rapidly on land, sea, and air. It is termed liquid at times.

THE APPLICATION OF MODERN SURGERY TO SOME OF THE SURGICAL WAR PROBLEMS. There are many problems that have been solved in the medical departments of the Army and Navy so that we may efficiently accomplish the mission of the medical departments of armed forces. The problems are myriad but American ingenuity has generally, and should, solved all that present themselves.

The most common complication of all injury in war is *shock*. Its causes and results are well known to you. Its modern treatment is applicable to war casualties. Very temporary aid results from the injection of glucose and saline in its treatment. When unaccompanied by hemorrhage, plasma is the treatment of choice. It is collected, processed, and packaged by the American Red Cross into two 400-cc. rubber stoppered bottles. The dried plasma in vacuum is in one, pyrogen-free sterile water in the other. After mixing it may be administered on the field of battle and is responsible for saving many lives heretofore lost. I must pause to pay respect to Blaylock for his diligent and conscientious work on shock for the past fifteen years.

War wounds with heavily armed forces, mechanized, using high explosive bombs from the air and shells from the mobile guns are the most common injury as the result of battle. Good surgery is necessary to accomplish the task of treating these war wounds, which implies good surgical judgment in the treatment of shock accompanying the wound, as well as débridement and immobilization of the part. Moorhead's timely lectures at Pearl Harbor at the time of the treacherous Japanese attack turned out to be fortunate. The use of the localizer for metal foreign bodies was proved useful.

Probably the most universally accepted advance in treatment of war wounds has been chemotherapy. Mortality and morbidity of war wounds has been materially lowered by the oral administration and less by the local application of the sulfonamides to the injured. I am certain that you are acquainted with Long's (Hopkins) and Ravidin's reports concerning the Pearl Harbor war wounds so treated. A small tin, self-dispensing box of twelve tablets of sulfonamides accompanies each soldier to battle. He is fully instructed as to how and when these tablets will be used. Powdered sulfonamides are also used in these wounds accompanied by the closed plaster treatment for immobilization of compound fractures and serious wounds of the extremities. Tetanus toxoid has been previously administered to each soldier many months prior to battle. Stimulating injections are given at the time of injury which has eliminated the need for tetanus antitoxin and the reactions so frequently accompanying its administration.

Burns are a naturally serious and common accompaniment of such a war. Aviators and mechanics frequently receive burns of the hands and face, as do sailors on blazing seas. Here the standard treatment of shock, débridement, cleansing of the area, tanning and use of the sulfonamides locally and orally offers a modern method of combating the main complications of burns—which are shock and infection. There are many surgical problems of the war upon which I would like to dwell, but art is long and time is fleeting—therefore, I must proceed.

PERSONNEL. Standardization of trained personnel, equipment, supplies, and installations is one of the fundamental principles underlying all military organizations. Placing a uniform on a surgeon from civilian life does not make him a medical officer of the armed forces, though it entitles him to all of the military courtesy of his rank. Heel clicking, loud talking, and sternness approaching fierceness, do not go with the uniform of the armed forces. The ideal surgeon of the armed forces is the smooth, politic, imperturbable individual who is capable of maintaining morale, which is an intangible dynamic element very necessary to victory. The flight surgeon of the Air Corps has caught this as well as any other group I know. The sympathetic understanding and interest in the welfare of the sick, injured or well, by a medical officer is a very important asset. Confidence must be established in the medical officer himself, as well as by his associated personnel and those for whose lives he is responsible.

The medical departments of the armed forces are meeting the situation. Lives are saved, many men are returned to service and much good is resulting from the earnest desire of us all to crush our treacherous foes and thus win this war soon.

Many physicians from Mississippi have donned the uniform. I pay tribute to those who have and to those who may pay the supreme sacrifice in this conflict. Relatively few are the members of the American College of Surgeons from Mississippi in uniform now. I know of several, about a dozen. We can do more, and we must do more. The day has passed when we must expect and demand "guns and butter." We must demand to win and soon. I plead with you to place your shoulder to the wheel and give your all to aid in bringing this world-wide conflict to a successful conclusion now.

"Look back upon the pageant of the noble figures who have adorned the art of surgery, now with thinned ranks, now with platoons of eager, exultant marchers. Our art is illumined in the arsenals of history by an unbroken chain of inspired workers, captained by the occasional heaven-endowed genius, imbued with great purpose. From all climes they come to form the solidarity of surgery, the pride of the world. Thus art and science walk hand in hand led by Opollo and the Muses to Olympian heights."

Surgeons! I salute you! Mars and Aesculapius are walking again, hand in hand, in the valley of the shadow of death. The wounded must not die!

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DISCUSSION

COL. W. M. STOUT (Camp Shelby)—I am quite sure that anyone who has read Dr. Haggard's inspiring book, and has heard the statement of Dr. Long that, "Wars through the ages have furnished the school of experience for surgeons" will find that it constitutes a challenge to all of us who are working in military medical work and are engaged in treating and healing the wounds of the minds and bodies of the soldiers. It makes us set our stakes and take one good look about us. It is not time for the final reckoning, but we can take invoice and ask ourselves the question, "What are we doing, and are we doing it well?"

Let us follow Colonel Long and go first to the selection and enrollment of those physically fit for military duty. Nearly every state now has its induction station where the selectees, passed on from the local county boards, are passed on their physical fitness at the rate of upwards of one-half thousand per day. While doing this, we have perfected the plan of accepting many doubtful cases—such as the syphilitics and other venereals—and making final diagnosis for the determination of physical fitness, for acceptance, or rejection, within the 72-hour allotted period.

As to the maintenance of health of our military personnel, we have instituted at our reception centers the beginning of routine procedures in the way of immunization, which are carried through when the soldier reaches his organization. This insures him safety from the serious infections and contagious diseases: tetanus, typhoid, yellow fever, and smallpox.

Now as to the last phase: In furnishing to the disabled, either from disease or injury, adequate care, I believe we have met the problem squarely. I know we are all interested, if not surprised, when we check back on our statistics and find we are meeting our serious surgical and medical problem of World War I with utmost success. Did we then believe that within the short space of twenty-five years lobar pneumonia would be taken care of with a mortality rate of less than one-tenth of one per cent; meningitis, with the septicemia type included, with a mortality rate of less than three per cent; and appendicitis, of all types, with a mortality rate of less than one-tenth of one per cent? All of these successes are being occomplished in many hospitals over the United States. It is a pleasure to state that your own state of Mississippi is meeting these problems at Army camps within her borders. It is with equal pleasure that I am able to state that this is accomplished without any long-range period of organization, and the medical officer staff is furnished from the rank and file of doctors so assigned. The state of Mississippi is contributing its share to the list of medical men who are making these figures possible.

DR. J. P. WALL (Jackson)—The author of that intriguing and thought-provocative book, THE ECCLESIASTES, said there is nothing new under the sun.

The practices of the medical corps of our varied armed services are putting into practical use the eternal verities of medicine and surgery, but while the practice may be new the underlying concept is old. War surgery has always brought and always will bring forth men who can and will rise to the occasion.

In the sixteenth century because of the exigencies of war the French surgeon, Paré, first used the ligature to control hemorrhage; in the Napoleonic Wars, Larry first organized the ambulance for evacuating the wounded, which method was improved upon by Letterman during our own Civil War. In the French and Indian Wars Dr. Beaumont in his studies on the fistulous stomach of the half-breed Indian, Alexis Martin, gave us our first concept of the real physiology of the stomach. The Civil War brought forth that master surgeon and teacher, Dr. Wm. Keen. The Spanish-American War had a mortality from typhoid of over 86 per cent of those infected, but Army surgeons showed that the common house-fly could be and was a vector of this disease. Contrast this awful mortality with that of typhoid fever in the World War No. 1, where only about 1600 en were infected and these because they had not been properly immunized. The work of Sir Almoth Wright developed the typhoid vaccination technique in the Boer War; in the Russo-Japanese War, the deaths from disease were reversed from what they had been prior to this time, for in this war there died of bullets and wounds seven times as many as died of infections, whereas prior to this time seven times as many soldiers died of infection as from wounds. In World War I the American forces perfected the mobile hospital, which was a combination of the best features of the French autochire and the British casualty clearing station. There our surgeons reduced the mortality of abdominal wounds by over ten per cent as compared with the ground surgeons. Other methods perfected were the early operative procedure on head cases, which were evacuated to a rearward area as soon as opportunity offered, while the abdominal cases were not evacuated for 72 hours, experience having shown this a better method. All sucking wounds of the chest were closed when first seen (either by suture or adhesive plaster over the wound); early mobilization of infected joints, as practiced by the Belgians at their great hospital center at LaPage, returned these men to service much quicker than immobilization of the joint; the retention sutures of operative and infected wounds, especially of the abdomen, prevented the occurrence of gangrene in many cases, as the wounds were left open for several days and then the retention sutures were tied. A feature remembered with great help to the patient is that when there was a wound of the through and through character of the abdomen, the rule was to operate on the back first and then on the abdomen, thus preventing shock. World War II offers several new features, but still old principles—immobilization and closure of wounds with plaster of Paris dressings until wound is healed, chemotherapy and the plasma bank, and débridement which connotes a keen knoweldge of anatomy by the operator.

In closing may I pay tribute to Colonel Lawrence Long, who as executive head of the Induction System of Mississippi, in this war has devised a system of rehabilitation of the selectees and those who have been rejected from the draft, that has received national recognition, and so well has Colonel Long done this task of monumental proportions, his superiors recognize his worth and have given him due credit for this very necessary and humane work of his department.

DR. G. S. BRYAN (Amory)—We are all in war whether in uniform or not. In line with Dr. Wall's review I wish to relate a personal experience. I served in one of those mobile hospitals in World War I with a surgical team. Our greatest trouble in the handling of the wounded brought to that hospital was shock. We had shock teams, we had citrated blood. These men were prepared for us and if we saved 20 per cent of the men brought back to this mobile hospital we felt good. The saving of life confronts us whether we are in civilian life or in war. I only want to bring out one point. We have an opportunity to save lives at the front, whether in uniform or in plain clothes. I call your attention to plasma. At the front men would probably die in ambulances before they get to the hospitals or the bank if we did not have anything to replace their blood but citrated blood. If we had had plasma in World War I to bridge over the time from these mobile hospitals back to the general hospitals, lives would have been saved. Now we have blood banks throughout the state. If we go back and encourage the population who are left behind to give their blood, I feel sure that one item of shock prevention and the saving of lives will have been done.

DR. LONG (closing discussion)—I am very grateful for the kind discussion. I think the point that Colonel Stout made should be emphasized. It is a wonderful part that the armed forces are playing in the handling of wounded men, and I am sure if Dr. Shands and Dr. Gamble were here to have his statistics on appendicitis they would have something to argue over. We realize of course that these men are under the supervision of the medical officer at all times, and when they begin symptoms they get operated on early, and that is the thing we have all been fighting for. In many editorials that Dr. Anderson has written in the DOCTOR he is fighting for these patients with appendicitis to be taken to the doctor early, to the small hospital where they can be treated. The statistics that Col. Stout has given you—1 death in 100 cases—means we must get these people in civilian and military and naval life to the surgeon and to the hospital very quickly. I think shock definitely is the thing that we are having trouble with in the armed forces and on the battlefields, from the information that comes to me. I thank each of you for your discussion.

Some Remarks on Pneumothorax*

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THE PRESENT paper has been instigated because of the serious complications arising in patients discharged from the sanatorium with pneumothorax who have been receiving refills from local pneumothorax depots. Also, many patients who have had their pneumothorax started outside the sanatorium are not receiving adequate collapse to insure the healing of the pulmonary tuberculosis. Unless the present conditions of administration of pneumothorax are corrected, in Mississippi, the procedure will fall into disrepute. Pneumothorax is the best and most efficient type of collapse therapy we have for tuberculosis if it is used correctly. At the present time pneumothorax is not indicated in any disease of the lungs except tuberculosis. The misuse of pneumothorax therapy in pulmonary tuberculosis frequently leads to serious complications many times more serious than the original pulmonary tuberculosis.

The ability of the state sanatorium to maintain a rapid turnover of patients is dependent on safe and efficient pneumothorax depots throughout the state. After safe and efficient depots are established, many cases of pulmonary tuberculosis will eventually be handled locally without admission to the sanatorium. The following discussion is intended to aid in improving the pneumothorax service throughout the state.

PHYSICAL EQUIPMENT FOR PNEUMOTHORAX DEPOT

The most important single item is the flouroscope. Every patient must be flouroscoped before each refill. Without flouroscopy, adequate and effective maintenance of the pneumothorax for the healing of the pulmonary lesions is impossible. The other items, of course, are a good pneumothorax machine with a manometer, rubber tubing, glass adapters, five cubic centimeter syringe, hypo needles for novocain, eighteen gauge two-inch short bevel needles for pneumothorax, a skin antiseptic (preferably tincture of iodine, half strength) a 50 cc. syringe and a three-way stop-cock for aspiration.

THE PHYSICIAN

The physician who uses pneumothorax treatment must have a thorough knowledge of tuberculosis, as well as the physiology of collapse therapy. The Mississippi State Sanatorium will accept physicians from the state for a two-week course free of charge. The physician who wants to treat tuberculosis should spend at least two years in special training. The two-week course is designed to teach merely the technic of pneumothorax refills. Many physicians over the state are doing excellent work in maintaining pneumothorax. Difficulties arise when short cuts are taken, as doing the refills without a flouroscope, or without manometric readings. The novice certainly cannot do a good job with less information than all phthisiologists find absolutely necessary.

Scrupulous care must be used in administering pneumothorax to avoid contamination of anything introduced into the pleural cavity. There is no excuse for a pyogenic empyema as a complication of pneumothorax. Far too many cases of pneumothorax have returned to the sanatorium with such complications in the past few years.

After flouroscoping the patient, the refill is ordinarily given in the fourth or fifth intercostal space in the mid-axillary line after preparing the skin with half strength tincture of iodine. The use of sterile gloves by the operator is not necessary; however, with or without gloves, the area of skin to be penetrated and the shaft of the needles must not be touched. The needles can easily be handled by the hub without contaminating the shaft. The intercostal space can be accurately palpated one to two inches from the site or injection. A novocain wheal is made in the skin without attempting to infiltrate the pleura. The so-called pleural shock is probably a myth originally confused with air embolus. A two-inch short bevel needle without a sharp point and of eighteen gauge is used for the refills. If the point of the needle is not sharp the lung will not be torn easily if it is accidentally touched. Eighteen gauge is the smallest needle that will give an accurate manometer reading The needle should be introduced just through the pleura and a manometric reading obtained. Occasional manometric readings are taken during the refill.

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AMOUNT OF AIR TO GIVE AT A REFILL

The amount of air given at a refill should average between 300 cc. and 400 cc. The refills should be given frequently enough that this amount of air will maintain an adequate collapse as revealed by the flouroscopic examination before each refill. During the institution of the pneumothorax frequent roentgenographic examinations should be made to determine when the collapse is adequate. If the same degree of collapse is maintained, the initial and final manometric readings will remain about the same at each refill However, the elasticity of the lung changes as the pneumothorax is continued so that the same reading does not mean that the degree of collapse remains constant just because the readings are the same. This is especially true of the patient without thickening of the pleura. We have seen far too many patients who have lost their pneumothorax, or the other extreme, who have had their lung completely collapsed because the physician depended on the manometric readings to guide him in maintaining the degree of collapse. The flouroscope is absolutely necessary for the administration of pneumothorax.

In general, the degree of collapse necessary in a given individual depends on the amount of collapse necessary to close the lesion roentgenologically and to convert the sputum.

ADHESIONS

Only about one per cent of the pneumothoraces instituted at the Mississippi State Sanatorium are free of adhesions. Occasionally the cavity beneath the adhesion can be closed without cutting the adhesion. Closure of the cavity in the presence of an adhesion does not mean that the cavity will heal. True enough, the patient's sputum may be converted and great clinical improvement occur. Such pneumothoraces almost brought the procedure into disrepute at one time because it was found that the cavities re-opened after re-expansion, regardless of the time the collapse was maintained. The necessity of cutting the adhesions to obtain an adequate and effective collapse in order for the lesion to heal has been proved many times in the past. If the adhesion cannot be cut, some other type of collapse therapy should be used in most cases. Patients who have adhesions that can be cut by the closed methods of pneumolysis can be admitted to the sanatorium on short notice if it is understood that they are to return home as soon as the wound heals after the operation, usually about ten days.

FLUID

The formation of fluid in the pleural cavity in which a pneumothorax is being maintained may be an extremely dangerous condition. The fluid, even though a clear straw color and thin, contains sufficient protein to be a very good culture media. The pleural cavity must be kept as dry as possible by aspiration of the fluid. Partial re-expansion of the lung may aid in the absorption of the fluid. After the fluid has disappeared, the degree of collapse can be returned to that present before the fluid appeared. If the fluid becomes purulent, it is necessary to re-expand the lung completely as rapidly as possible. The occurrence of a tuberculous or pyogenic empyema in a pneumothorax is one of the worst catastrophes that can occur. Even if the patient does not lose his life, the chances of cure after a tuberculous empyema are not very good.

The use of the flouroscope before each refill will, of course, determine at the onset when the fluid has started and aspiration and partial expansion of the lung can be started without delay.

OTHER COMPLICATIONS OF PNEUMOTHORAX

Air embolus, which may cause death in a few seconds or may cause only a transient focal paralysis, is the most dreaded complication of pneumothorax. Air embolism can be avoided by not introducing the needle into the lung. The introduction of a needle into a diseased area of lung is thought to be more dangerous than that of a normal lung. The head of the patient should be lower than the thorax when giving pneumothorax. In the past seven years there has not been a fatal case of air embolus at the Mississippi State Sanatorium, though we give between six and eight thousand refills annually.

Atelectasis of the collapsed lung should be avoided. Fluid will usually occur if a lung remains atelectatic for only a few weeks. Atelectasis shortly after starting a pneumothorax usually denotes the presence of a tuberculous involvement of the bronchus. The lung must be expanded sufficiently to become areated and the bronchi examined by the bronchoscope.

USE OF PNEUMOTHORAX IN TUBERCULOSIS

The indications for the use of pneumothorax are not within the scope of this discussion. Mention of the fact should be made that only about eight per cent of the patients on whom pneumothorax is started obtain a satisfactory pneumothorax at the Mississippi State Sanatorium. Most of the other ninety-two per cent are given some other type of collapse therapy; and in some, other types of collapse therapy are not possible. Successful pneumothoraces among patients outside the sanatorium probably will not be much greater.

In general, the pneumothorax should be maintained for a period of about five years if a cavity of over one centimeter was present at the time pneumothorax was started. If the pneumothorax was initiated for minimal disease without cavitation, the collapse should be maintained for about three years. Shorter periods of pneumothorax are occasionally suggested in the literature, however we have obtained better results with these longer periods.

At the time of re-expansion, the lung must be examined by frequent roentgenograms to determine if healing is complete. If the lung is not healed, pneumothorax is again started before the lung has become adherent to the chest wall. If the lung appears healed, complete re-expansion is allowed and a temporary phrenic nerve interruption is done so that the lung will make the adjustments of re-expansion slowly. Patients for phrenic nerve operations can also be admitted to the Sanatorium on short notice, to return home after healing of the wound, usually in three or four days.

CONCLUSIONS

1. The fluoroscope is absolutely necessary to the physician giving pneumothorax therapy
2. Scrupulous, even meticulous, care must be used in giving pneumothorax.
3. A knowledge of the limitations of pneumothorax will prevent the procedure from falling into disrepute in a few years when many of the ineffective cases of pneumothorax over the state are re-expanded.
4. A knowledge of the complications of pneumothorax and how to handle them, along with improvement in technic of administration, will prevent the serious complications arising in the past.
5. In general, a temporary phrenic nerve interruption should be used at the time the lung is re-expanded.

Someone has figured out that the American family spends annually $100.00 for medical services.

Also it is estimated there are $350,000,000 worth of unpaid doctors' bills in the United States. We in this area contributed no little to this latter item.

L. L. M.

A Discussion of the Use of Cotton Sutures in Abdominal Surgery*

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ALTHOUGH the use of cotton sutures is not new, having been recommended for use in suturing wounds in the abdomen and about joints as long ago as 500 B. C., it is difficult to understand why their use is not more widespread.

There has been much dissatisfaction with the result obtained with catgut sutures for several reasons. First, catgut sutures cause "wet healing" which is associated with excessive fluid exudate and delaying of the appearance of fibroblasts. Second, the tensile strength of gut is never constant. We speak of it being fourteen-day or twenty-one day, etc., but it is doubtful if in five days any one piece would have tensile strenth of any value. Third, it is difficult to sterilize, and certainly difficult to sterilize without impairing the tensile strength. Fourth, the average cost of gut for each operation is about one dollar and twenty cents, or six ampoules, which is a conservative estimate.

Halstead[1], reporting on the use of fine silk in preference to catgut in 1913, made four recommendations for the use of nonabsorbable suture: 1) Only interrupted sutures should be used. 2) Coarse suture material should be avoided by the use of a greater number of finer sutures. 3) A dead space should never be bridged over. 4) The combined use of absorable and nonabsorbable sutures should be avoided.

These recommendations have been followed by most of the men working with nonabsorbable sutures, namely Gage and Guerry, who have used fine cotton for ligatures for many years and more lately by Meade and Oschner, Long and Thorek.

Cotton has the desirable qualities of pliability, satisfactory tensile strength which is constant and does not deteriorate after being in a wound for a few days. Tensile strength is not materially affected by sterilizing and it is easily sterilized. There is little tissue reaction as healing takes place by dry healing and there is little or no attempt by the fibroblast to infilterate the cotton fibers in the manner which they do silk. There is no tendency to sinus formations as we frequently see with silk.

Cotton has a natural tendency to twist and maintain its size and shape, whereas silk and gut have a tendency to swell and unravel. In the case of cotton there is little likelihood of the knot slipping and the suture can be cut very close to the knot, thus leaving very little suture material in the wound. The cost of cotton suture material averages one and one-fourth cents for each operation.

The disadvantages of cotton as a suture material are: First, we are not accustomed to using it and find it rather clumsy and without body like catgut. Second, it slows up our work, however after one uses it a few times he finds that his technique improves and he can work as rapidly with it as gut. Third. it is not possible to pull and tug as we sometimes do with gut because it will break. This has a tendency to make us handle tissue more carefully. Anyway, tissue that has to be forcibly approximated does not belong together. Fourth, using interrupted sutures is rather time consuming and tedious. Taylor[2] however, advocates using a continuous suture and reports good results.

Thorex[3] reports that in using cotton he has taken cases as they come and has used it in thyroidectomy, mastectomy, gastroenterostomy, gastric resection, mekuliez procedures for large bowel neoplasms, appendectomy, both ruptured and non-ruptured, pelvic surgery, cholecystectomy, common duct drainage, hydrocele, vein ligation, herniorrhaphies, wounds of face, amputation stumps and suturing tendons. He also reports that he has no hesitation in using both absorbable and non-absorbable sutures in the same case where indicated.

Guthrie[4] reports that his percentage of reoccurrence following herniorrhaphy has greatly been reduced since using cotton sutures.

Cotton thread, size number twenty-four, is suitable for most routine work and where heavier suture is needed it may be used double. Quilting thread or size fifty may be used for suturing the peritoneum, ligating small blood vessels and suturing subcutaneous tissue.

Our own experience with cotton suture has been very limited. We have used it on three indirect inguinal hernias, one direct in a female, five appendectomies, and about twenty pelvic cases, including fibroid, ovarian cysts, chronic salpingitis, tubo-ovarian abscess, hysterectomy and cesarean section. However, in the section case the uterus was sutured with chromic catgut No. 1 because of the contractibility of the uterus. We have used continuous sutures throughout and have had no cause to regret this procedure. We had one skin infection which healed in about eighteen days. The part of the continuous suture which was exposed was in the subcutaneous tissue and was pulled into the wound and cut. The wound healed without any sinus formation.

In closing I would like to make the following comments: In cotton we have a suture material which can be easily sterilized. It has a good tensile strength and maintains same. It can be used in any part of the body and can also be used as an interrupted or continuous suture. It can be used in either clean or infected wounds without hesitancy and without fear of sinus formation. Furthermore it is cheap and can be obtained anywhere.

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3. Thorek, Phil; Gradman, Ralph; Glaess, Alferd; Additional experiences with spool cotton as a suture material. American Journal of Surgery 59:68-71, 1943.
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Complications Following Removal of Impacted Wisdom Teeth As Seen by the Otolaryngologist*

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THIS SUBJECT is one of the most important in medicine. This paper is not meant to be offensive to the dental profession but rather to bring to the attention of the medical and dental professions a troublesome problem. There should be the closest coöperation between these two professions. Entirely out of my own experience, I shall mention only those complications which I have seen.

Removal of an impacted wisdom tooth, or third molar, is a surgical operation and should not be undertaken by anyone except a competent exodontist. The usual reaction following removal of an impacted wisdom tooth is severe pain, swelling of the side of the face, sometimes extending down the neck, trismus, sore throat, earache (usually a reflex otalgia), coated tongue, offensive breath, slight fever, malaise. A moderate amount of such reaction may be considered normal. Anything beyond normal limits may be considered as a complication. But there are other and more serious complications, and are as follows: 1) acute tonsillitis, 2) acute peritonsillitis and peritonsillar abscess, 3) pharyngomaxillary abscess, 4) acute otitis media, 5) reflex otalgia, 6) hemorrhage, 7) anesthesia of skin on chin and lower lip, 8) sinus disease, 9) alveolar maxillary fistula, 10) parotid abscess, 11) fracture of upper and lower jaw bones, 12) osteomyelitis of upper and lower jaw bones, 13) cervical cellulitis, 14) cervical adenitis 15) palmar abscess, 16) acute swelling of knee joint.

Complications occur by continuity of tissue, by contiguity, through the lymph channels, and through the blood stream. Local infection at site of removal of teeth, also trauma during operation undoubtedly have something to do with these complications. Wisdom teeth cause trouble either by infection or pressure. It is said that all impacted wisdom teeth have infection around them. When the wisdom tooth is impinged against the second molar in front of it, either lying flat, or at some slanting angle and cannot any longer grow forward, it grows backward against the nerves supplying the teeth, causing pressure on these nerves. They also cause pressure on the teeth in front, sometimes causing a crowded condition of the teeth. Some of the troubles blamed on impacted wisdom teeth are as follows: earache (usually a reflex otalgia), headaches and other pains involving the second and third divisions of the fifth cranial nerve (this includes pain in the teeth), throat pain (which may not begin until after tonsillectomy), pains in the shoulders and arms, facial paralysis and other cranial nerve palsies, eye infections, ear troubles, vertigo, arthritis, menstrual disorders in young women, nervous and mental disorders. When a complication arises, it usually makes an appearance several days after removal of the teeth. When these complications occur, the patients often seek the aid of the otolaryngologist. Sometimes these patients are referred to the otolaryngologist by the exodontist. Before these teeth are removed they are often invisible. Sometimes you can see the edge of the tooth. In any case an x-ray of the spaces behind the second molar tooth, upper and lower on each side, will determine the presence or absence of the tooth and its exact position. Sometimes misplaced wisdom teeth may be found in unusual locations. Cases have been reported of a wisdom tooth being imbedded in the posterior bony wall of the maxillary sinus just under the orbital roof, another was on the malar bone at the external orbital angle, and still another was found imbedded in the temporal muscle. Cases also are reported of an unerupted fourth molar.

ACUTE TONSILLITIS, ACUTE PERITONSILLITIS, PERITONSILLAR ABSCESS, AND PHARYNGOMAXILLARY ABSCESS:

If the tonsils have not been removed previous to the removal of the wisdom teeth, practically all cases will develop acute tonsillitis after removal of lower impactions. Some cases will develop acute peritonsillitis or a peritonsillar abscess. Still others will develop a pharyngomaxillary abscess, in connection with a peritonsillar abscess, or even in cases where the tonsils have been previously removed. A certain amount of sore throat following removal of lower impacted wisdom teeth is normal. This will occur even though the tonsils have been previously removed. It usually clears in a few days. I have seen a large number of throat infections following removal of lower impacted wisdom teeth. Traumatism at time of operation, local wound infection, and the close proximity of the lower wisdom teeth to the tonsil are factors that enter into these throat infections. Certain anatomical facts should be remembered. The tonsil is placed on the medial side of the superior constrictor muscle of the pharynx, being separated from it only by the pharyngo-basilar fascia. The superior constrictor muscle of the pharynx which forms the medial boundary of the pharyngomaxillary fossa, has four bellies of origin, as follows: 1) from the pterygoid hamulus, 2) from the pterygo-mandibular ligament, which is common to it and the buccinator muscle, 3) from the posterior end of the mylo-hyoid line of the mandible in the region of the wisdom tooth, 4) from the mucous membrane of the mouth and the side of the tongue. The pharygomaxillary fossa is funnel shaped, the base of which is located at the base of the skull, close to the jugular foramen, and its apex is at the level of the greater horn of the hyoid bone. As previously stated the superior constrictor muscle forms the medial boundary. The external boundary is formed by the ramus of the mandible and the attached internal pterygoid muscle. The internal pterygoid muscle arises from the pterygoid process of the sphenoid bone and from the tuberosity of the maxilla and is inserted into the quadrangular surface on the inner side of the ramus of the mandible, just below the mandibular foramen.

Involvement of the internal pterygoid muscle gives rise to the trismus in these cases as it has a powerful action to clamp the jaws together. A part of the external boundary is also formed by the prevertebral fascia. The fossa is divided into two compartments by the styloid process and its attached muscles. The larger anterior compartment (prestyloid) is in close proximity to the tonsil. The smaller posterior compartment (poststyloid) may be considered as the visceral compartment, since it contains the internal carotid artery, a portion of the external carotid, the internal jugular vein, the ascending palatine and pharyngeal arteries, the vagus, glossopharyngeal, and the hypoglossal nerves, the sympathetic cervical trunk and the deep cervical lymph nodes. The posterior compartment runs close to the base of the skull with the internal carotid artery to the petrous pyramid, and down into the middle mediastinum. It communicates above with the retropharyngeal space and with the sheath of the parotid gland on its internal aspect, and below with the fascial space containing the submaxillary gland. Peritonsillar abscess and pharyngomaxillary abscess demand surgical drainage. An external incision is to be preferred in cases of pharyngomaxillary abscess. An interesting thing to remember about the pharyngomaxillary fossa is that it is one of the surgical avenues of approach to a petrositis, since the petrous pyramid forms the upper boundary of the pharyngomaxillary fossa. In cases of acute tonsillitis silver nitrate or tincture of benzoin compound should be applied locally, sulfonamides should be given, always be on the lookout for a Vincent's angina, and treat vigorously, if present. Many of these cases are mixed infections, Vincent's plus staphylococcus for instance. Here is a report of a peritonsillar abscess: 1) Young lady, age 18, office assistant, had lower right impacted wisdom tooth removed, several days later developed peritonsillar abscess. Had marked trismus, excruciating pain, nausea and vomiting, high fever, extreme prostration, redness and bulging behind the tonsil. Abscess opened and drained and patient made quick recovery. Here is a report of a pharyngomaxillary abscess: 2) Young lady, age 20, record clerk, tonsils removed thoroughly almost 3 years previously, had lower left impacted wisdom tooth removed. Developed marked trismus, had a chill followed with a high fever, swelling at angle of the jaw, wisdom tooth area swollen, red and bulging backwards behind tonsillectomy scar. Abscess opened externally, two ounces of thick pus was evacuated and patient made a quick recovery. These pharyngomaxillary abscesses may give rise to thrombosis of the internal jugular vein with a blood stream infection, and they may extend downwards into the mediastinum. C. B. Henry of London reports 700 cases of misplaced wisdom teeth with 40 patients dying from complications, chiefly due to infections of the floor of the mouth and the deep structures of the neck.

ACUTE OTITIS MEDIA AND REFLEX OTALGIA:

A large percentage of all patients will have earache after removal of impacted wisdom teeth, when the ear appears to be perfectly healthy on examination. This is known as reflex otalgia. It usually disappears in a few days. Sometimes it is so severe as to require codein or morphine to relieve it. It can also be relieved by cocainization of the sphenopalatine ganglion in the nose. I have seen one case of acute otitis media which was relieved by a myringotomy. This patient also had an acute tonsillitis on the same side and a Vincent's infection and was desperately ill. He recovered after a stormy convalescence.

HEMORRHAGE, ANESTHESIA OF SKIN ON CHIN AND LOWER LIP:

Free bleeding takes place at time of operation and there is always a certain amount of oozing for a few hours afterwards. Hemorrhage can take place several days after operation much the same as after tonsillectomy. Here is a typical case: 1) Young lady, age 19, telephone operator, 14 days after removal of all four impacted wisdom teeth for a recurrent eye infection had sudden, spontaneous hemorrhage from the lower left side while down town shopping. She ran to my office very much excited. I stopped the bleeding with some difficulty and she had no further trouble from bleeding. The eye infection cleared completely in a few days after the teeth were removed. This same patient has had an anesthesia of the skin on the left lower lip and the left side of the chin. This is thought to be due to an injury to the inferior alveolar branch of the third division of the fifth nerve, and will likely clear completely in a few months. It is improving at this time, five months later. If the nerve is severed, it gives rise to the same symptoms, but the condition will remain permanent.

SINUS DISEASE, ALVEOLAR MAXILLARY FISTULA:

I have seen three cases of acute maxillary sinusitis following removal of impacted wisdom teeth. Nearly all cases will have some pain in the cheek after removal of impacted wisdom teeth and this should not be mistaken for sinusitis. All the cases of acute maxillary sinusitis which I have seen cleared in a few days after they had been treated. I have seen three cases of alveolar maxillary fistula following removal of upper impacted wisdom teeth. Two were associated with acute maxillary sinusitis and closed spontaneously after the sinus had been treated. I have seen one case of alveolar maxillary fistula that remained open and was associated with a chronic maxillary sinusitis. This patient also had a deviated nasal septum and an allergic condition of the nose. She was referred to me, and when I told her what I thought was wrong with her and what she would have to have done, she did not coöperate and I do not know the final outcome of the case. A large fistula associated with a chronic maxillary sinusitis will require a radical antrum operation, plus a plastic operation on the fistula. This plastic operation is done with a sliding graft placed over the fistula and sutured in position.

PAROTID ABSCESS:

Young lady, age 18, stenographer, had all four wisdom teeth removed at one sitting, six weeks later developed swelling of the parotid gland size of hen egg. During this interval she had never fully recovered. Had marked trismus, could take but little nourishment, kept on trying to do her work. Came to see me and I referred her back to exodontist. He could find nothing wrong, had several other physicians to see her. She finally came back to me and I had to treat her. I tried to aspirate pus from the swollen mass but could not locate any. Heat was used. Nonspecific protein therapy was used but did no good. Thinking that Vincent's angina was in some manner to blame, she was given sulfarsphenamine intravenously and had a severe reaction several hours afterwards. Pus formed, parotid was opened by a small external incision, one ounce of thick pus was evacuated. Did fine for a few days. More pus formed. Had to be reopened. This occurred for at least three times. Finally I gave her 6 10 gm. of neoarsphenamine intravenously and she had no further trouble. The blood Wassermann was negative.

FRACTURE OF UPPER AND LOWER JAW BONES:

Fracture of the upper and lower jaw bones will sometimes occur even in the most skilled hands. I have not seen a very large fracture I have seen at least three small fractures. These were not very serious but they did delay recovery. It is easy to get a fracture—a slight split in some direction—since many of these teeth are removed by mallat and gouge.

OSTEOMYELITIS OF UPPER
AND LOWER JAW BONES:

Osteomyelitis of upper and lower jaw bones sometimes occurs. I have seen one case of osteomyelitis of lower jaw bone in consultation. I understood that the oral surgeon was going to do some operative work, remove necrotic bone, drain, etc., but I did not have a chance to observe the case any further. I saw one case of osteomyelitis of upper jaw bone, which was not very extensive, only in area surrounding the tooth. When necrotic bone was removed the patient recovered.

CERVICAL CELLULITIS AND CERVICAL ADENITIS:

Cervical cellulitis is rather common following removal of impacted wisdom teeth. All cases show marked swelling of jaw and it often extends down the neck. Swelling of the neck is often associated with peritonsillar abscess and pharyngomaxillary abscess. It disappears when the abscess is drained surgically. Cervical adenitis is present in some degree in many of these cases before operation. It is often present with cervical cellulitis. Sometimes the glands become much enlarged and very painful. Vincent's angina is thought in many cases to have something to do with this. What the connection is I do not know exactly, but I have seen them clear completely after being treated for Vincent's.

PALMAR ABSCESS:

Young lady, age 19, physician's assistant, had four impacted wisdom teeth that were thought to be causing tachycardia. Two teeth on one side were removed. Did fine for two weeks. Then developed painful swelling in palm of one hand. It became so serious that it had to be drained surgically by making a deep incision into the palm of her hand under nitrous oxide anesthesia. Two ounces of thick pus was evacuated. She quickly recovered.

ACUTE SWELLING OF KNEE JOINT:

Physician, age 38, all four wisdom teeth were removed at hospital, several days later developed marked swelling of knee joint, could not walk, had severe pain. Was kept in bed, heat was used, codein was given for pain, one of the sulfonamides was used, recovered in about two weeks. I did not treat this patient but saw him a number of times as he was a close personal friend.

MISCELLANEOUS REMARKS:

In the last few years I have had two patients sent in for mastoid operations, both girls, age 15, both had severe pain in the mastoid region. Examination of ears, including x-ray of mastoid, was negative. X-ray of teeth revealed a lower impacted wisdom tooth, both on the left side. No other wisdom teeth were present. The teeth were removed and both patients recovered.

I have seen one case of fascial paralysis in white man, age 21, recover in about 8 weeks.

I have seen one case of vertigo, simulating Menière's syndrome, in a man age 23, recover after removal of two lower impacted wisdom teeth. The vertigo had been present for three months.

Another interesting case: Policeman, age 30, treated for 3 days for acute nasopharyngitis with good improvement, went to night baseball game, fainted, was rushed to hospital. Next day felt fainty and smothery. Felt this way 3 or 4 days. X-ray revealed two upper impacted wisdom teeth. Both teeth were bathed in pus and one had necrotic bone around it, which was removed at time of removal of teeth. Patient made quick recovery. I have seen a large number of young adults, ages 18 to 25, suffering from eyestrain and headaches, had errors of refraction, impossible to fit with glasses satisfactorily until impacted wisdom teeth were removed. I saw one case of young lady, age 18, who menstruated a little nearly all the time. She was in very poor physical condition, very anemic, from loss of blood. Removal of four impacted wisdom teeth caused an immediate improvement. She gained 20 pounds in weight in a few weeks, appeared to be in good health, has been in good health ever since.

Several years ago I removed tonsils for a girl, age 18, who came back to see me about 6 months later, complaining that I had ruined her throat. She said that her throat hurt all the time; that she had earache and pains in her shoulders and arms. She was very angry. I examined her and could find nothing wrong with the operation which I had performed. I had several other physicians to examine her. I had an x-ray made which revealed four impacted wisdom teeth. These were removed and all her troubles disappeared.

I have not seen a case of Ludwig's angina following wisdom tooth removal but I did treat a case successfully a few months ago which came on following removal of some lower front teeth in a married woman, age about 30.

CONCLUSION:

There has not been a death in any of the cases which I have seen. Most cases of impacted wisdom teeth are removed in young adults. All of the complications which I have seen have been in the white race. I have seen none of these in the colored race. In fact I do not believe the colored race has much trouble that can be traced to impacted wisdom teeth. Every patient should have a thorough physical examination, including a smear, a culture from the mouth and throat, a blood Wassermann test where indicated, and an x-ray of the wisdom tooth region, before these teeth are removed. Any case showing Vincent's doubt about it, it should be treated anyway angina, or any case that is doubtful, should have intensive treatment for this condition. Lederer claims that all persons carry Vincent's organisms aspirated in their mouths and throats normally in small numbers. How easy it is then for these organisms to take hold and grow at the proper time, if they are already present! Other organisms are also present. These include diphtheria bacillus, pneumococcus, staphylococcus, streptococcus, and possibly others. It is my belief that all patients should have their tonsils removed before wisdom teeth are removed. This would preclude the possibility of most of the acute throat infections, except pharyngomaxillary abscess, if these patients were detonsillized first. The proper treatment for Vincent's angina in my opinion is neorasphenamine (or its equivalent) intravenously, and bismuth in the gluteal muscles. Local measures include 10% chromic acid applied to the gums, silver nitrate or tincture of benzoin compound applied to the tonsils, a gargle and mouth wash of sodium perborate. It is my belief that Vincent's angina cannot be cured by local treatment alone. Those who practice this are fooling themselves and doing their patients an injustice. The after treatment in these cases is very important—just as important as a good operation. Immediately after removal of the teeth, ice should be applied for several hours. After a day or so, heat should be applied to the jaws daily. I prefer an infra-red lamp. All cases should be inspected daily, the wounds should be cleansed gently, patients should use an antiseptic mouth wash several times daily. Codein or morphine may have to be given to relieve severe pain, if a combination of aspirin, phenacetin and phenobarbital does not do so. The patients should be kept nourished with liquids, also soft diet, if they are able to swallow soft foods. In some of the desperately sick patients with marked trismus, nausea and vomiting, saline and glucose should be given intravenously. All cases should be kept well eliminated, alkalinized and vitaminized. The best treatment for any complication is to prevent it, if possible. At the first sign of anything out of the ordinary, the patient should be started on sulfonamides. I prefer sulfathiazole. If Vincent's angina should make an appearance, it should be treated vigorously. If there is Complications, when they occur, should be dealt with according to what they are.

The Mississippi Doctor

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The indications are that the Southern Medical Association is going to have a very fine meeting this fall. November 16, 17, 18 is the time and Cincinnati is the place. This is the first time for the association to meet outside its territory, and we are grateful to this Ohio city for extending us a welcome. It is fine that the Southern has the vision and the courage to go forward and not stop on account of the war, but putting forth special effort to keep new medical information flowing freely. Mississippi is honored this year with the presidency, Dr. Harvey F. Garrison. He has been a hard worker in the Southern Medical, in the American Medical Association and the state organization. We should feel proud of his leadership and should show it by our attendance. If your plans are not complete, make them now to attend the best medical organization in the world.

The Northeast Mississippi Thirteen Counties Medical Society held its third annual session at Amory on September 13. President B. C. Tubb presided over the meeting with Dr. A. J. Stacy as secretary. The attendance was good and the interest keen. The scientific program was very fine and the entertainment was the best, as was expected of Monroe County. Dr. M. Y. Dabney of Birmingham, editor of the *Southern Medical Journal,* a native of Mississippi, and a gynecologist of no small renown, was the guest speaker. His address "Diagnosis and Treatment of Leukorrhea," was evidence of the man extensive study of the subject and vein for definite ideas. Dr. J. K. Taggart of Aberdeen read a paper that would have been a credit to any medical society. We are glad to have him as a newcomer to our society. Dr. P. W. Rowland of Oxford, an honorary member of the society, discussed heart disease of doctors. His discussion was able and timely. The society was delighted to have Dr. Underwood present and to have his discussion of some subjects of interest. Dr. Virginia Howard of Jackson was an appreciated guest of the society. The medical spirit of Monroe County, Dr. G. S. Bryan, was at his best in the role of host.

The next meeting of the society will be held in Tupelo in December. It will be a good one.

The doctors of Mississippi and the people in general deeply regret the loss of Dr Dewey L. Anderson. He has been the field man for the Mississippi State Sanatorium for a number of years. This field work has been one of the most important phases of the sanatorium benefits. Although we regret to lose him we wish him much success in his new work at the Oakville Memphis Sanatorium. He is worthy and well-qualified for any work he undertakes. Dr. C. C. Smith is taking place of Dr. Anderson at the Mississippi Sanatorium and we are sure he will do well. We value very highly our chest surgeon, Dr. Harter, in this institution also. He is doing splendid work.

We deeply sympathize with Dr. Douglas Baugh of Columbus in the recent loss of his father, Dr. R. B. Baugh of Morton. Dr. Baugh's grandfather served as physician and surgeon in the Civil War. It is good to see the third generation of the family taking up the torch of the profession and going forward.

Recently I spent a very pleasant day, in company with Dr. Underwood, who had notified me that he would stop by for me as he went up to Corinth. We left my office at ten a. m., stopped a short time at the Tupelo hospital and reached Booneville in time to lunch with the Booneville Rotarians. Soon after lunch we left for Corinth where we visited in the county health department. This department is, seemingly , well staffed and under the direction of Dr. May. I should mention, however, that Dr. Cleveland of Tupelo is doing double duty since the death of the Prentiss County health officer. This is only a temporary arrangement, although Dr. Cleveland's ability and experience make him fully capable of caring for both counties. After our visit in the Alcorn health department we drove over to Shiloh Park, for a limited inspection. Dr. Underwood had never visited this park before. Returning to Corinth, we met with the Alcorn County Society in its regular monthly session, Dr. W. A. Johns, president. Its members are as fine a group of doctors as can be found in any state. They are enthusiastic and wideawake where the interests of medicine are involved. They demonstrated this when Dr. Underwood discussed the Wagner-Murray bill that will soon come up for consideration in the United States Congress. The merits or rather the demerits of this iniquitous bill were discussed in detail, by the members of the society as well as by Dr. Underwood. It was made evident that the chief objection to the bill is the fact that medical service will deteriorate and the high standing of American medicine will suffer inevitably. It is my considerate opinion that the passage of this bill will set medical progress back many decades. I can not discuss the bill in detail but I do want every reader of the Journal to read and study it very carefully. Having done this, then it behooves us all to use all legitimate means to defeat and destroy it. At this Corinth meeting it was evident that the finest of professional feeling exists among its members. Their welcome to all visitors was cordial in the extreme and the food they served was the *very* best.

After a rather lengthy session, we returned to Booneville where we spent the night in the home of Dr. and Mrs. Anderson. Anyone who has ever been a guest in this home will gladly bear testimony to the hospitality that is always extended to visitors. Mrs. Anderson is one of the most charming hostesses I have ever known. Indeed she is a wonderful woman in many ways. She is helpful to her husband in his many undertakings. In fact, without her help it is hardly possible that he could carry on successfully all the lines of activity that he undertakes. It was hard to tear ourselves away from these fine people the next morning, but Dr. Underwood kept his promise to return me to my office and duties before noon. He ran just a bit late (as usual) but I could excuse him, since I, too, was loath to leave the Andersons. Dr. Underwood says, however, that he is trying to live down the mention of the "late Dr. Underwood." Though he may be a little tardy at times, I can testify that he is not dead, neither is he sleeping, but is very much alive on a very large job.

Well, the Northeast Mississippi Thirteen-Counties autumn meeting was held in Amory on September fourteenth. The attendance was even larger than had been expected. The program was carried out in every detail, all the essayists being present with splendid papers. The guest speaker, Dr. M. Y. Dabney of Birmingham, delivered a most interesting lecture in a most interesting way. He is a great editor of a great journal and is a fine exponent of medicine. Besides this, he has a very charming personality. He was accompanied by Dr. Jones, one of Birmingham's leading gynecologists. Their presence added much to the meeting. Monroe County doctors appreciate these annual meetings and feel complimented that one of the quarterly sessions is given them each year. Of course the wives of the members are most welcome too. I believe that all who come enjoyed the meeting and the social feature of the occasion too. The city of Amory will always welcome any such body of progressive men and women.

G. S. B.

DR. DEWEY ANDERSON TAKES OAKVILLE POST

Dr. Dewey L. Anderson, formerly of Mississippi State Sanatorium near Jackson, Miss., is the new medical director at Oakville Memorial Sanatorium.

Dr. Anderson succeeds Dr. J. S. Chapman, who resigned recently to enter private practice in Dallas, Texas. Dr. Anderson was director of the field diagnostic unit at the Mississippi State Sanatorium, and consulting physician on chest diseases for the Mississippi State Board of Health.

Dr. J. P. Wall, Jackson, Miss., has been appointed chairman for Mississippi for physicians for the Procurement and Assignment Service, succeeding Dr. T. M. Dye, Clarksdale.

News and Comments

The Tulane School of Medicine is announcing the following courses:

FALL COURSES:

October 4-9, 1943	Surgery
October 25-28, 1943	Pediatrics
November 1-6, 1943	Medicine
December 13-17, 1943	Obstetrics and Gynecology

WINTER AND SPRING COURSES:

January, 1944	Pediatrics
February, 1944	Surgery
March, 1944	Medicine
April, 1944	Obstetrics and Gynecology
May, 1944	Pediatrics

Tulane is to be congratulated on these one week courses. It is rendering a fine service at this time in so doing. It seems to us after taking one of these courses we are convinced that much progress has been made by Tulane in its postgraduate work, about as much in one week as we used to get in six. Almost any doctor can be away from his work for a week, but a longer time is very difficult under present conditions.

FIGHTING MEN NEED NURSES!

Wherever we turn we hear of the urgent need for nurses in our armed forces. The setup for recruitment of nurses is purely on a voluntary basis. It is under the direction of the American Red Cross and all bona fide nursing agencies. These organizations have devoted all their efforts toward the recruitment program, yet they have failed to recruit enough nurses to meet the desired quota.

No plans for a draft of nurses are afoot. As a matter of fact, a draft of just one woman's profession or group is not possible. Nurses, as women, could be drafted only in case Congress would authorize a draft of all women.

Why does this shortage of nurses exist? Surely it cannot be the age limit, which is forty-five years, nor is it the pay which, at the beginning, is $150.00 per month, with a promotion in rank and pay open to all nurses who join the Nursing Corps. No nurses in the armed forces are privates; they all enter as officers. This, of course, is not true of men who are drafted or who volunteer for service.

By enlisting in the Nursing Corps of the armed forces nurses will be doing a tremendous service for the injured and ill service men. One of these men could well be our colleague, our brother, nephew, or perhaps our neighbor, and I am sure that we, as physicians, would feel that servicemen should have the best nursing care.

The public has not as yet awakened to this great need for nurses in the armed forces. If it had, marny would deny themselves of excessive nursing care. This would ease up the load on private duty nurses, thereby releasing more nurses for military duty.

Physicians, I believe, can help relieve this condition to a certain extent by making the need known to the public, to hospital administrators, and especially to their patients. The public must be made conscious of this shortage, and I know of no better place to begin than with the information which physicians may disseminate.

Some of the things which cause a shortage of nurses are quite well understood by the medical profession. Many nurses who are of military age are married and have families to care for, many are in ill health, and many are employed by physicians as secretaries or assistants. Industry has absorbed many nurses; public health and school nursing has absorbed many more. It might well be said that any nurse who is employed by a physician as an assistant, one who is employed by industry, or one employed by school units, et cetera, who is physically fit and is of military age with no immediate dependents, should enlist for military duty.

The following is quoted from a letter received at the Indianapolis Chapter of the American Red Cross, from Major General Magee of the United States Army:

"We appreciate the strain that is being placed on civilian hospitals and schools of nursing by the nursing demands of the present emergency. However, we feel sure that you, like all other Americans, will be satisfied with no less than the best nursing care for our troops.

"It is absolutely necessary that the Army secure nurses with administrative and teaching experience. They can render an invaluable contribution in teaching and supervising the new units that are constantly being organized. At the beginning of this expansion there were forty-three installations in the United States, and there are now over four hundred and fifty exclusive of those overseas. Many of these units are general hospitals with more than one thousand beds, and each requires not less than four nurses with administrative ability to establish a satisfactory service.

"At the beginning of the war there were less than 700 nurses in the Army Nurse Corps; in the past two years approximately 23,000 have been added. From the foregoing you can readily understand why the Army, too, needs nurses with executive experience if we are to fulfill our purpose.

Deaths

DR. R. B. BAUGH

Funeral services for Dr. R. B. Baugh, well known physician of central Mississippi, were held September 2 at the Polkville cemetery, with the Rev. D. W. Moulder officiating.

Dr. Baugh, who was 65, died at a local hospital after an illness of two weeks.

A native of Polkville, Smith County, he was the son of the late Dr. A. S. Baugh who served as a physician in the Confederate Army. He was graduated from the University of Tennessee Medical School and had practiced in the Polkville community since 1898. Dr. Baugh served as Smith County health officer at various times.

Surviving are his wife, Mrs. Flora Walrod Baugh; two sons, Dr. Douglas Baugh, Columbus, Miss., and Howard Baugh, Angleton, Texas, and a daughter, Mrs. W. W. Martin, Puckett, Miss.

DR. E. C. ARMSTRONG

Funeral services were said August 30 for Dr. E. C. Armstrong at his residence in Laurel. He had been confined to his bed for several weeks.

Surviving are Mrs. Annie Freeman Armstrong, the doctor's widow; one daughter, Martha Anne Armstrong; two sisters, Mesdames W. H. Mathison, Prentiss, Miss., and Willia Parris, Gadsden, Alabama; and his stepmother, Mrs. J. M. Armstrong of Silver Creek.

Dr. Armstrong was born in Silver Creek, Mississippi, October 26, 1881, and located in Laurel thirty-three years ago. He was graduated from the University of Nashville in 1908.

He was not only a useful member of his profession, until ill health overtook him, but was a faithful member of the First Baptist Church where he held the post of deacon, and was greatly beloved by the members.

DR. WILLIAM R. GRADY

Dr. William Robert Grady of Meridian, prominent East Mississippi physician, was buried there September 5. He was 85, and had been in declining health for the past several years.

Dr. Grady, a Spanish-American War veteran, was a member of the Methodist Church Masonic Lodge, American Legion and the State Medical Association.

The physician made Meridian his home for the past 30 years. He was educated at the Atlanta School of Medicine, Atlanta, Ga. He is survived by his wife, Mrs. Dorothy Ladner Grady, a daughter, Mrs. W. F. Follen, Meridian; three sisters, Mrs. Alan Crawley, Mobile; Mrs. Selma G. Irwin, Cuthbert, Ga., and Mrs. Frank Smith, Meridian, Miss.; and four brothers, Littleton, Macon, Ga.; Sullivan, Newton and Lewis Grady, Mobile, Ala.

DR. C. L. WATKINS

Dr. Charles Lee Watkins, well known physician in the Ponta community, died at Rush's Infirmary in Meridian.

Dr. Watkins was born at Gholson in Kemper County, and had practiced medicine in Mississippi and Arkansas for many years.

He is survived by his widow, Mrs. Irene Watkins, Route 4, Meridian, daughter, Mrs. L. S. Riley, Hattiesburg; son, Curtis R. Watkins, Fort Smith, Ark.; seven brothers, B. F., Washington, D. C.; J. D., G. P. and R. J. Watkins, Meridian; J. H. Watkins, Dallas, Texas; W. W. Watkins, Lockhart; and P. F. Watkins, Kemper County; also four grandchildren.

Dr. Watkins after teaching school about 13 years, began the study of medicine. He practiced most of his life, principally in the rural sections of Mississippi.

DR. W. E. DENMAN

Dr. W. E. Denman, 61, prominent physician for 40 years, died August 28 in Greenwood.

Dr. Denman, a graduate of Mississippi College in 1904 and the University of Tennessee in 1908, had previously practiced in Brookhaven and Phillip. He had been located in Greenwood for the past 16 years.

Survivors are his wife, the former Miss Grace Leighton; two sons, Dr. W. E. Denman, Jr., Greenwood, and Eugene Denman, with the U. S. Air Force in India; one daughter, Miss Dorothy Denman of Greenwood; three sisters, Mrs. Mike Hey, of Charleston; Mrs. W. E. Seale, Crenshaw; Mrs. E. M. Sayle, Memphis, Tenn. Four brothers also survive, Richard E. Denman; Dr. C. W. Denman, Hughes, Ark.; Kenneth Denman, Charleston, and Edwin L. Denman, Winter Haven, Fla.

DR. J. M. HEARD

Dr. Joseph M. Heard died at the residence of his son, Mr. and Mrs. Hal Heard, August 26. Dr. Heard had been in declining health for several years, having been blind a considerable length of time, but the end came suddenly, resulting from an intestinal hemorrhage. Dr. Heard was born in Monroe County, near Prairie. He practiced medicine at Egypt for 15 or 20 years. In the year 1876, as a young man, he joined the Texas Rangers, and fought Indian battles on the Texas frontier. He was a man of strong convictions and fearless in his defense of what he conceived to be right.

He is survived by his widow, Mrs. Mary Jamison Heard, five sons, J. M. Heard, Jr., Atlanta, Ga.; Malcolm J. Heard, Macon, Ga.; Hal T. Heard, Aberdeen; David L. Heard, of Memphis, and John W. Heard of Nashville; one daughter, Miss Elizabeth Heard, of Jackson and Aberdeen, and a twin brother, Mr. Judson Heard, of Pecos, Texas, also survive.

FOR SALE—At a sacrifice: One large, almost new Cambridge Electrocardiograph costing $1250.00. Will sell for $800.00. Husband in service, Mrs. H. A. Whittington, 405 Franklin St., Natchez, Miss.

FOR SALE—Medical Library of the late Dr. J. A. Price for sale at $75.00. Any information about it can be obtained by letter to Mrs. J. Addison Price, Germantown, Tenn., or by telephoning 31-7334.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Vicksburg.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments.

EYE, EAR, NOSE AND THROAT

ALLERGY IN HEARING DEFECTS — Hugh A. Kuhn, M.D., Jour., Ind. State Med. Assn., Vol. 35, No. 3, page 143.

The author noted "in the past few years we have become increasingly confronted with hearing difficulties that did not fit well into the usual category for analysis and in cases that were also allergic. There seemed to be a definite improvement in hearing when the patient was placed under allergic management."

The most characteristic symptom noted was variability in hearing acuity, though the following symptoms were also noted: "1. Fullness of one or both ears; 2. Loss of hearing, or dullness of hearing; 3. Deep, dull pain in ear; 4. Itching in back of nose and between the nose and ear; 5. A tinnitus, vertigo or nausea; 6. Tightness and drawing in the ear; 7. A deep burning in the ear."

In those cases in which the hearing was thought to be influenced by allergic manifestations the author took an audiogram (air conduction); then gave the patient an injection of adrenalin (5 minims in an adult); 20 minutes later, another audiogram was taken.

He submits a series of audiograms that are short of remarkable. While it is realized that these are selected cases, there are some who show a rather marked diminution of hearing who, after the injection of adrenalin, had practically normal hearing.

In conclusion, the author noted "There is an appreciable number of patients with lowered hearing due to an allergy. The audiogram is changed in positive cases by giving adrenalin and these positive cases are improved by allergic management. There may be a combination of pathology with a super-imposed allergy."

EDITORIAL COMMENT: This is such a simple test that its use is justified as a diagnostic procedure.

THE INTRANASAL APPROACH TO THE LACRIMAL SAC: Dr. E. T. Matis, Kaunsas, Lithuania. The Laryngoscope, Vol. LIII: 5:357.

The author presents his operation by stating that most clinics prefer the external dacryocystorhinostomy operation, mentioning those most commonly used. He then presents his method of intranasal dacryocystorhinostomy, which he also calls "the transapertural operations," giving full credit to Veis, and others.

The author always performs the operation under local anesthesia. The incision is made intranasally along the pyriform aperture and the periosteum freed from both sides of the bone as far up as the frontal process of the superior maxilla, using forceps and rongeurs as well as chisels, gouges and mallets. The intervening bone is first removed; and then all of the bone surrounding the entire lacrimal sac. The entire medial wall of the lacrimal sac is removed, and a corresponding area of nasal mucosa resected. The author advises the removal of the anterior ethmoidal cells and, if indicated, the anterior portion of the middle turbinate. No sutures are used, the author completing the operation by gently packing the nasal cavity.

He reports a series of fifty cases and some of his remarks are interesting. "***the only complication being hemorrhage***40% of the subjects operated on were out-patients who returned to their homes after the operation and came back two days later for the first change of dressing***all the operations were perpatients were over 65 years of age and all bore the operation well***post-operative reaction was on an average of from 4 to 6 days duration***if one considers the possibility that in some cases that were not subsequently seen there may have been a reappearance of tear-flowing, a figure of 75-85% (of perfect results) can be assumed***the method can be used unfavorable anatomical conditions*** in no case where the lateral nasal wall was radically removed was there any external disfeguration."

EDITORIAL NOTE: Chronic dacryocystitis has long been considered a very unsatisfactory condition. Dacryocystectomy was generally so unsatisfactory that dacryocystorhinostomy was devised. The Toti-Mosher operation is probably the most popular in this country while the Dupuy-Dutemps is more popular in European clinics. Some years ago Wiener published his method, which appears much more satisfactory for the surgeon who performs such operations only occasionally.

State Board of Health

Felix J. Underwood, M.D.

PREVENTABLE DISEASE CONTROL

July 1, 1941—June 30, 1943

A. L. GRAY, M.D.

Director

The division of Preventable Disease Control has the job of determining what the problems are with reference to disease control in the state and of planning, promoting, and supervising an adequate program of protection. In recent months. this work has been materially increased by the impact of the war because of the increased hazards and conditions favorable to the spread of communicable diseases. To effectively combat these diseases with all available methods requires definite, positive, continuous effort on the part of health workers, physicians, communities, and individuals. Increased freedom from such diseases can be enjoyed by the people of the state only if they are willing to pay for the protection required in dollars, material, mental and physical effort. That the total effort is justified is borne out by the following table, showing progress made in combatting a few of the major disease problems of the state:

	Cases	*Deaths*
1925		
Typhoid Fever	4,415	470
Diphtheria	1,370	130
Malaria	71,950	411
Smallpox	1,216	4
Tuberculosis	4,099	1,855
Pellagra	8,646	561
1941		
Typhoid Fever	218	36
Diphtheria	130	40
Malaria	36,815	146
Smallpox	22	0
Tuberculosis	1,400	1,016
Pellagra	2,873	121
1942		
Typhoid Fever	170	22
Diphtheria	419	44
Malaria	31,752	84
Smallpox	19	0
Tuberculosis	1,428	1,092
Pellagra	3,313	115

NEW DISEASE TO FIGHT

NEW CONTROL METHODS FOR OLD DISEASES

So long as there are human beings there will be contagious disease to plague them. This will be disastrous conversely in proportion to the amount of intelligent effort put forth to control them. As certain diseases are rapidly brought under control, new diseases appear or new effective methods are discovered to combat old ones.

POLIOMYELITIS

This is an old disease which continues to be a serious problem and its seriousness increases in cycles every few years. A great deal is not known about preventing its spread, formed under local anesthesia***10% of the but recent developments in aftercare of those afflicted give much hope in reducing the residual crippling caused by it. The Kenny method of treatment has been made available through the Crippled Children's Service of the State Department of Education, and the state and local chapters of the National Foundation for Infantile Paralysis and assistance from the National Foundation itself. Assistance in this case finding and treatment program has been rendered by the State Board of Health and county health departments. Below is tabulated the cases by years in Mississippi, showing the continuity of the problems in the state and its accentuation at frequent intervals.

Year	*Number of Cases*	*Year*	*Number of Cases*
1930	45	1937	352
1933	52	1938	69
1932	34	1939	26
1933	14	1940	43
1934	11	1941	157
1935	14	1942	63
1936	138		

During the summer and fall of 1942, most of the cases occurring were studied thoroughly in an effort to find more about what causes the disease and how it is spread. This study was done by Dr. L. L. Lumsden, retired from the United States Public Health Service, and loaned to the state by the National Foundation for Infantile Paralysis with assistance by the staff of the Division of Preventable Disease Control. All cases reported were visited by these workers and studies were made with special reference to surroundings in which the cases occurred, types of people affected, possible relationships to insects and animal hosts and other factors. It is hoped that such studies will ultimately bring to light the method of speed and effective control methods.

TYPHUS FEVER

This is one of the serious communicable diseases which in recent years has been introduced into the state and gradually spread over the entire state. Note the table below which shows the number of known cases reported since 1930.

Year	*Number of Cases*	*Year*	*Number of Cases*
1930	0	1937	15
1931	0	1938	25
1932	0	1939	49
1933	1	1940	51
1934	0	1941	66
1935	5	1942	59
1936	6		

The first known cases in the state were in 1933, since which time the disease has steadily increased and spread from the southern half of the state to all sections. We may expect very serious trouble with this disease, for in practically all southern states in the past few years the number of cases per year has been in figures of thousands rather than in fractions of a hundred. The disease is transmitted to man by rat fleas from infected rats which serve as the reservoir of infection for the human being. Prevalence of this disease will be determined by the amount of intelligent, organized, continuous effort put forth to control rats. This is a public health and economic problem which must have increased attention.

WHOOPING COUGH

This serious debilitating disease of childhood has not always received the attention deserved. Observe its inroads on the health and welfare of childhood in Mississippi since 1930 as shown in the table below:

Year	*No. Cases*	*No. Deaths*
1930	10,959	160
1931	4,462	71
1932	6,837	110
1933	10,763	244
1934	15,230	318
1935	7,554	112
1936	4,023	55
1937	6,567	114
1938	9,899	150
1939	9,663	158
1940	9,407	144
1941	9,469	138
1942	10,254	102

In this thirteen-year period it has caused 1876 deaths, or an average of 144 deaths per year and 96% of these deaths was in the group three years of age and under. This average of 144 deaths per year due to whooping cough is only slightly less than the number of deaths caused in 1942 by typhoid fever, diphtheria, smallpox and malaria combined.

Realizing the seriousness of this disease, as soon as an effective immunizing agent had been discovered, the Division of Preventable Disease Control initiated a state-wide immunization program in 1941, having as its objective the reduction of cases. This program of whooping cough protection is being carried on by county health departments, part-time health officers, and private physicians. The vaccine necessary for the program has been secured and distributed in the biennium and the demand for it is increasing rapidly. It is being used almost exclusively in children three years of age and under.

Not only have health departments entered into this program with enthusiasm, but so have the private physicians. The program provides for supplying vaccine to private physicians, who in turn will supply health departments with individual record cards showing name, age, sex, and race of children protected. It is expected that as this program increases, there will be a corresponding decrease in whooping cough deaths as well as in severity of disease in those having it following vaccination.

TULAREMIA (RABBIT FEVER)

This is a severe disease of rather recent introduction into the state, but its importance is increasing as shown below:

Cases of Tularemia in Mississippi by Years

Year	Number of Cases	Year	Number of Cases
1935	1	1939	7
1936	0	1940	7
1937	0	1941	40
1938	0	1942	54

Tularemia is spread primarily from rabbits as the animal reservoir, usually by handling the infected animal, but in some instances by insects biting rabbits and then human beings. Its control will be through public education as to dangers involved in handling rabbits. The disease must have more attention in the future; otherwise, the number of human infections will parallel the infections in the animal hosts. There seems to be an increasing prevalence of the disease in rabbits.

Undulant Fever

This is a serious disease of long duration resulting primarily from the consumption of unpasteurized milk from cows infected with contagious abortion. It may also be spread by handling raw, infected meat. Although the number of reported cases has not been large, there is evidence that many cases are not being diagnosed and reported. The number of cases reported by years since 1930 are listed below:

Year	Number of Cases	Year	Number of Cases
1930	0	1937	23
1931	3	1938	32
1932	10	1939	25
1933	13	1940	26
1934	3	1941	28
1935	14	1942	27
1936	21		

The facts above, together with the vulnerability of milk to contamination with other disease germs of serious nature, make it imperative to increase the amount of pasteurized milk consumed and to eliminate infected animals from milk herds.

Venereal Disease Control

The social upheaval resulting from the war has favored rapid spread of the venereal diseases, making this one of the most acute problems of the present emergency. Personnel of the division of Preventable Disease Control have been busily engaged in expanding the venereal disease control program and adapting it to meet war-time needs and demands. It has been the job of this division to work out a satisfactory coöperative program of venereal disease control with the Army, Navy and other military branches and with the Selective Service, according to the needs of each of these agencies, because a solution of their venereal disease control problem was dependent upon the civilian control program. This has entailed a tremendous increase of work by division personnel. In conducting this accelerated program, the State Board of Health and county health departments have had splendid coöperation from the Army, Navy, Selective Service System, the Division of Social Protection of the Social Security Agency, and fair coöperation from law enforcement officers. The United States Public Health Service has given much assistance by lending medical and nursing personnel with special training in venereal disease control of the State Board of Health, who were assigned to the division of preventable disease control.

The control program was making rapid strides in expanding before the war started but when preparations for war got underway, new and increased demands were made. As military personnel began to accumulate in the various training units, there was an influx of infected females into military areas. These individuals had to be located, examined and rendered non-infectious in order to prevent spread of the diseases to our fighting men. The Selective Service examination of registrants had diagnosed and referred to local clinics for treatment more than 24.000 registrants by the end of the biennium. These registrants had to be located, placed under treatment, and kept there until they became fit for induction. These and many other problems resulted in the marked expansion of the clinic program and services rendered in these clinics.

In the extensive clinic program carried out, 300 private physicians have coöperated in operating the clinics on a part-time basis. Physicians have also treated thousands of cases of venereal diseases with drugs supplied by the State Board of Health through the Division of Preventable Disease Control.

A new development in the control of venereal diseases has been the establishment of three treatment centers where those infected with venereal disease can be isolated during the period of infectivity, as well as treated under the newer rapid treatment methods now available. These centers in Mississippi are referred to as Public Health Treatment Centers and are located at Meridian, Richton, and McLain.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

During the years 1941 and 1942 the state was fortunate in that few of the diseases present at all times showed a tendency to increase. Many showed considerable decline over previous years; others were not unusually prevalent; and a few others increased at some time during the biennial period. Influenza showed an increase in prevalence in 1941 and scarlet fever increased in prevalence in 1942, but neither of these to an alarming extent. Malaria continued its decline of the past seven years. Meningitis occurred in about the usual numbers in 1941 and 1942, but showed a marked increase in the first six months of 1943. This increase was practically all in military units of the state and communities in which these units are located.

* * * * * *

Some of the problems facing us in cummunicable disease control have been outlined. Efforts made in controlling certain diseases have been indicated. Many diseases needing attention such as tuberculosis, malaria, deficiency diseases, etc., have not been covered in this account, but they are major problems, nonetheless. Cancer is another outstanding disease, which is causing an increasing number of deaths. This will continue to be so until an organized effort is put forth on a statewide basis to foster lay education and provide adequate diagnostic and treatment facilities. Hookworm is still a serious problem in many sections of the state and will require continued vigilance to reduce it to a minimum. Only a good beginning has been made in venereal disease control. A continuing attack along the lines already started should make for a gratifying reduction in the high incidence of these diseases.

Communicable diseases are constantly on the march in their attack on the human race. The fight against them must be vigorous and consistent, with physicians, public health workers and laymen uniting in the effort.

A DOCTOR'S PLEA IN WARTIME

The doctor's life, in times like these,
Is not exactly one of ease.

For, on the home front, each M. D.
Is busier than any bee!

He's shouldering the burden for
The other docs who've gone to war.

This leaves your doctor precious little
Time to sit around and whittle.

And indicates the reason why
You ought to help the poor old guy.

HOW?

1. By keeping yourselves in the best of condition
   Thus avoiding the ills that demand a physician.
2. By phoning him promptly when illness gives warning,
   But — unless very serious — waiting 'til morning.

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MRS. RICKS BOOSTS WORK

Dear Auxiliary Members,

Our auxiliaries are joining hands with the all-out effort as we are launched on another year of work. Each organization is urged to contribute time and talent to all phases of war work in addition to the regular auxiliary activities.

In a message from our national president, she says, "This war has opened new opportunities for the auxiliary and we should take advantage of every opportunity to further the aims of the medical profession and the auxiliary, through the defense measures in our community. We as physicians' wives should be the leaders in all health programs, in nutrition, first-aid and home nursing classes as well as taking our places as Nurses' Aides or Gray Ladies or volunteers in a hospital, office or laboratory. It has been suggested by our National Advisory Council that one of our projects this year would be assisting with the recruitment of nurses and the new Nurses Cadette Program."

The *Bulletin* will have a page devoted to auxiliary members who are away from home with their husbands in the armed forces. In this manner the members in other states will be informed of those who are in their vicinity. It is suggested that they be invited to participate in the auxiliary activities of the county in which they are temporarily residing.

In a day that is full of tragedy, heartache, separation, suffering and sorrow, we should be anxious and willing to serve when called on.

"Let us do our duty in our shop or our kitchen; in the market, the street, the office, the school, the home, just as faithfully as if we stood in the front rank of some great battle, and knew that victory for mankind depended on our bravery, strength, and skill. When we do that, the humblest of us will be serving in that great army which achieves the welfare of the world."

Sincerely yours,
Mrs. H. C. Ricks
President, Woman's Auxiliary
Mississippi State Medical Ass'n.

PRESIDENT'S MESSAGE

Brought to the members of the state organization at its annual meeting in Jackson, May 12, 1942, by Mrs. V. B. Philpot, Tupelo, Miss.

The privilege of service to the Woman's Auxiliary to the Mississippi State Medical Association has been a delightful one. Humbling it has been—exacting and demanding, too—but one has felt the honor and the benign blessings of service through the opportunities presented to its president.

Delightful it has been to lead the Mississippi Auxiliary in the year that the national organization came of age, for it was in 1922 at St. Louis that the Woman's Auxiliary to the American Medical Association was born. The life of usefulness finds its fruition at 21. So may it be with our organization.

This organized service may be only a score of years old but the services and help rendered by wives to their husbands antedates it by thousands of years. An all-sufficient Lord looked down on the lonesomeness of Adam in the loneliness of Eden and saw that it was not good for man to labor alone. So He created from him and for him a help-mate. We of the Woman's Auxiliary simply carry on in tangible form the plan and purpose of the Creator as we seek to be help-mates.

Thomas Paine said of the years of the Revolution, "These are times that try men's souls." Those words are even more appropriate now than they were then. Men's suols *are* tried in these periods of crisis—and wives' hearts are broken. Sensitive are the souls of women. Those souls are being bludgeoned and borne down as husbands answer the call of country, leave the practice built up by years of effort, and say good-bye to home and loved ones for the duration. Those who are left, sleepless, over-worked, unappreciated, tired, worn, now more than ever need the help of his chosen life partner. Now, more than ever, doctors' wives must be bigger than themselves. Now, more than ever, Mrs. Medical Man must be the metal shield with the velvet lining—metal, so she can protect the precious energies and time of her husband, lined with the soft cushion of velvet that she may buff the shock of outside interests on her husband's brow. Now more than ever, there must be a transparency of understanding between Doctor and Wife. Dr. Nathan B. Van Etten has told the story of the husband and wife who discussed their mutual responsibilities concerning family problems. The wife said, "I will leave all the major problems to you and I will take care of all the minor problems." In the course of twenty years there were no major problems.

Perhaps the working out of our tasks will be more personal than corporate, but the medical women of Mississippi will meet the challenge of these times with heads high and hearts unafraid. We will dare to do the things thought impossible for the progress of medicine in our state. We will keep ourselves informed and through ourselves we shall strive until we have reached the last and the least with the education program of medicine. We will go into every school house with our message. No hamlet, no matter how small will be overlooked. The Red Cross will receive our best efforts as will every other organization designed to help in the saving of people from the power of disease.

Above all, we shall approach the throne of the Creator and humbly pray for strength to "keep the home fires burning"—not at white heat, but with the warmth and comfort of a winsome heart. We shall join hands with our noble husbands and walk not backward, but forward—always helping, never hindering, until we pass the crisis and wander on into that special Utopia which must be reserved for those who have served and served well.

That constitutes our task.

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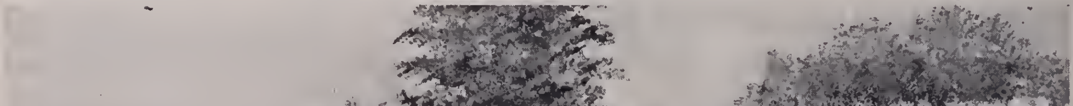

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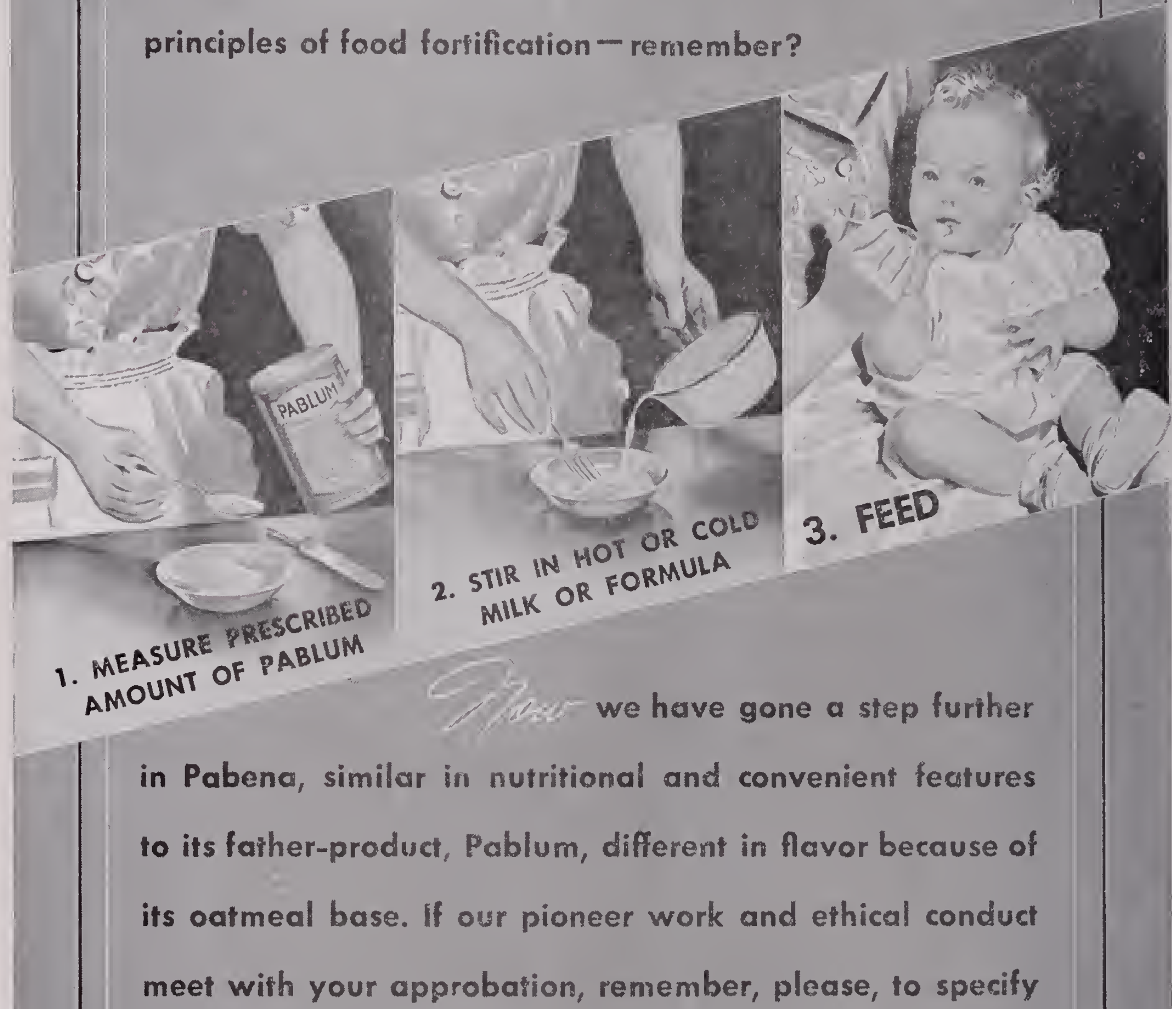

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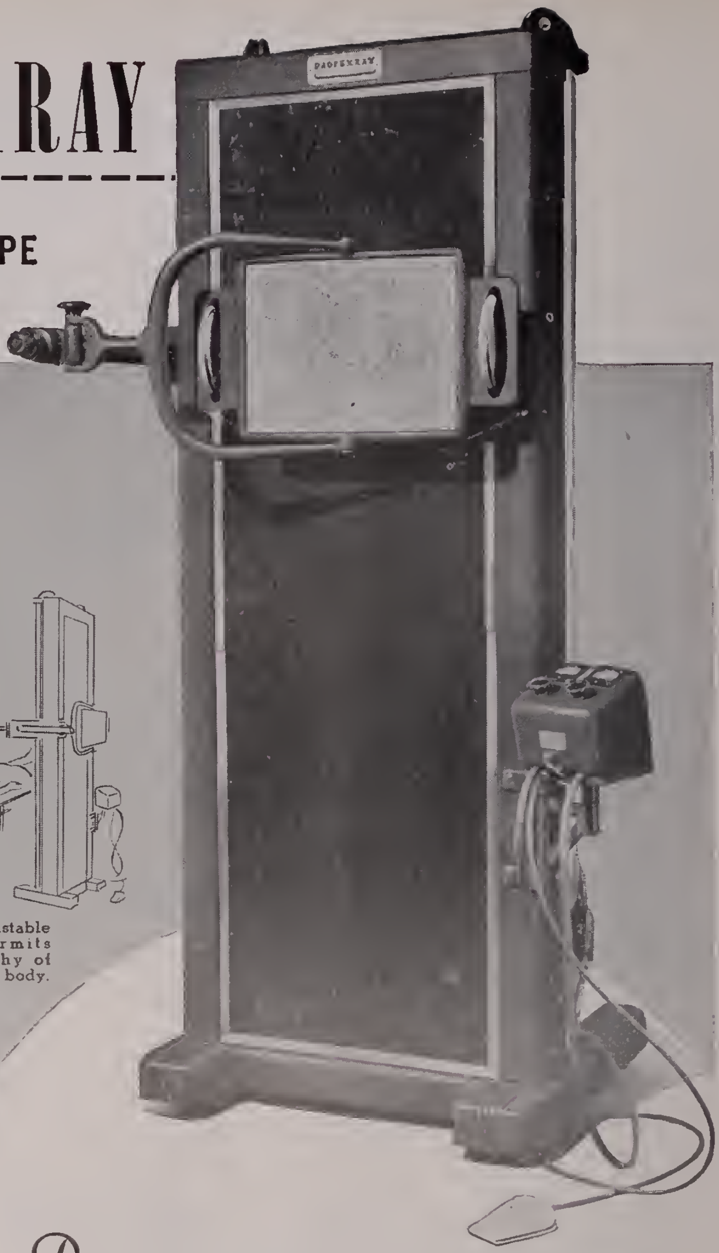

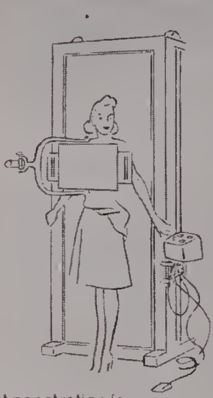
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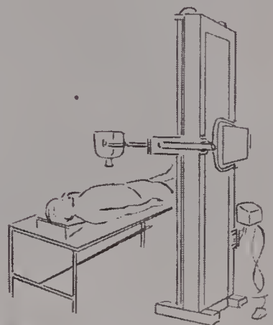
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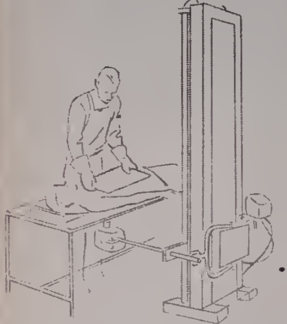
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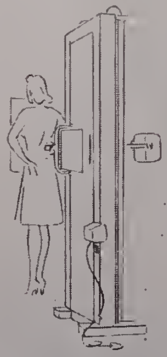
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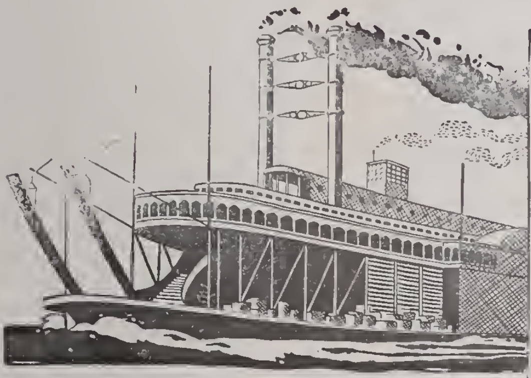

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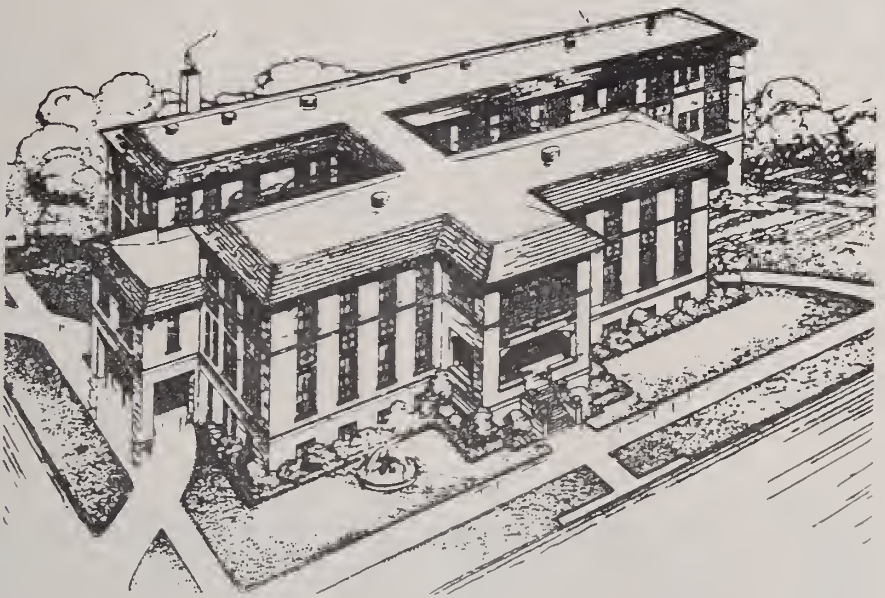

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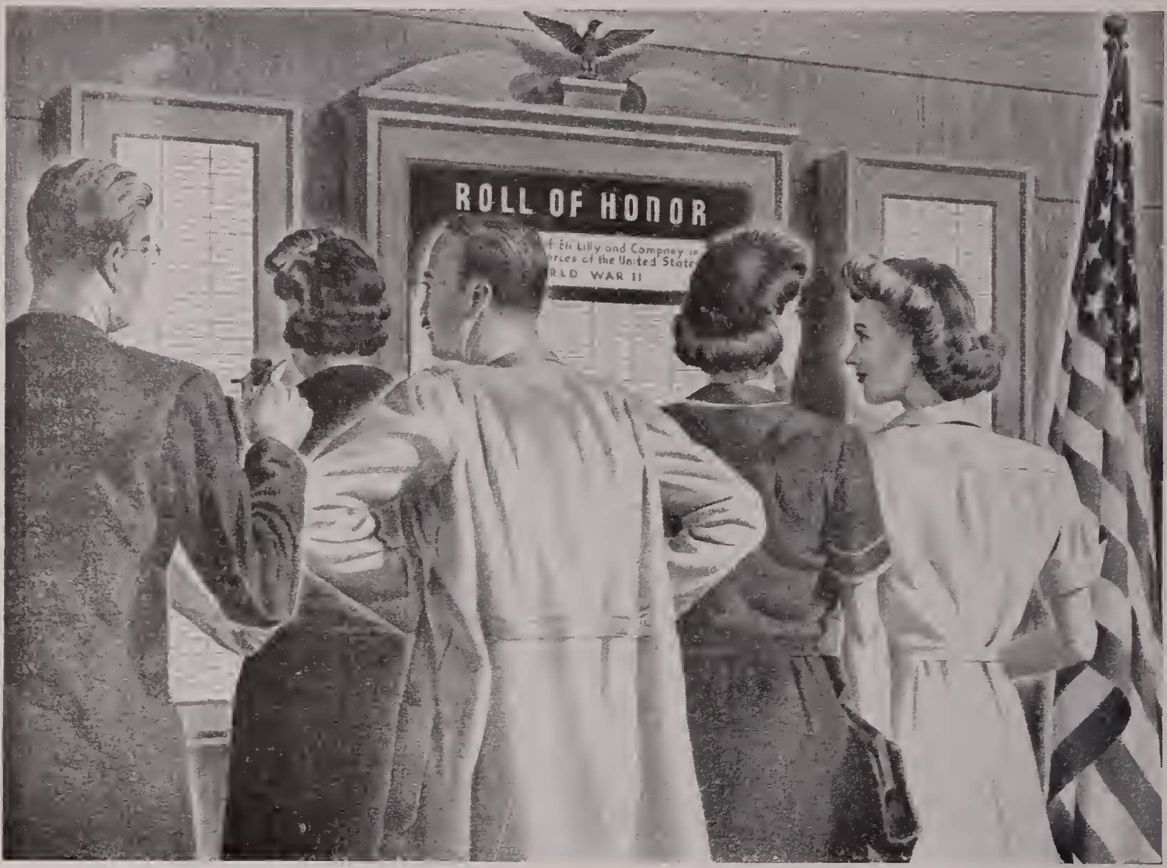
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Human Blood Plasma: A Review of Its Preparation and Clinical Indications for Its Use*

D. W. DAVENPORT, JR.†
NEW ORLEANS, LA.

AT PRESENT, in the hospitals of the United States, there are more than a thousand laboratories preparing human plasma or serum. With very few exceptions these were nonexistent three or four years ago.

Yet the idea of separating the liquid portion of blood and storing it for future use is not new, since as long ago as 1871 American physiologists had undertaken animal experimentation along these lines. Although experimental work continued throughout the years and basic principles were established it was to be six decades or more before serum and plasma would come into general use, chiefly because of technical problems involved in safely producing these substances in quantity for clinical application.

While frequently employed as such, the terms *serum* and *plasma* are not synonyms. Serum is the liquid component of blood which has been allowed to clot in a sterile container. Plasma is prepared from blood which has been citrated or otherwise treated with an anticoagulant.

It is now well established that properly prepared human plasma and serum may be used interchangeably with equal benefit and safety. Most laboratories continue to produce plasma, since it is easier to prepare and because in many hospitals outdated banked blood is a source of supply.

During the past two and one-half years I have had the privilege of being in charge of the Blood Plasma Service of the Southern Baptist Hospital in New Orleans. More recently I have also been associated with the plasma laboratories of the Touro Infirmary. The present discussion is largely based on the experience gained in this work.

Let me say here that no original contributions are claimed, aside from minor technical innovations which any laboratory must devise in meeting day-by-day problems.

The chief aim of the service has been to provide human plasma of consistent safety and constant availability. To this end established principles have been adapted to meet particular needs.

Is a blood bank necessary where plasma is available? In most cases, I do not think so. We have found plasma to be quite adequate in meeting emergencies which usually demand whole blood transfusion. There has always been sufficient time gained to arrange for a subsequent whole blood transfusion. It is felt that better plasma can be obtained from fresh blood, rather than from banked blood and that fresh blood is better for transfusion.

Plasma may be prepared by sedimentation or by centrifugation. The maximum yield obtainable by the former method is about forty per cent, while by the latter it will often be as high as fifty-seven per cent, varying of course, with the size and power of the centrifuge. Routinely we employ centrifugation since it not only gives a greater yield but because it accomplished in hours what demands nearly a week by sedimentation.

Rapid as it is, centrifugation is still something of a bottle-neck in the "plasma industry." The containers of blood and the centrifuge cups must be very carefully balanced to prevent abnormal vibration of the machine. Even an experienced technician requires at least ten minutes to properly balance six cups. In addition, the larger centrifuges require from eight to twelve minutes to coast to a stop following a run of 45 minutes at 2,300 R.P.M.

Two solutions are suggested here (although they are not easily applicable in these days when all kinds of equipment are very difficult to obtain). One is to have more than one centrifuge. This is expensive and in the average hospital laboratory not necessary. Another is to have a duplicate set of centrifuge cups which can be filled and balanced while the other set is being run. Time loss between runs would be reduced by eight or ten minutes.

Considerable work has been done elsewhere using cream-separator centrifuges for making plasma. Hill[1, 2, 3] has used such machines for some time in large scale production of des-

sicated plasma and reports uniformly good results. Although I have heard this procedure criticized as involving a partially open system, innovations which any laboratory worker must devise in meeting day-by-day problems.

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*Read at the seventy-sixth annual session of the Mississippi State Medical Association, Section on Hygiene and Public Health, May, 1943.

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The chief aim of the service has been to pooling of whole bloods and excessive hemolysis, I believe that fundamentally it is a sound concept in mass plasma production. The press of work has thus far denied me the pleasure of visiting Dr. Hill's laboratories at Baylor University Hospital. My knowledge of his work is based on a perusal of the literature, personal communications from Dr. Hill and interviews with physicians who have worked at Baylor and who have used and seen used the human plasma prepared there. I personally believe that the cream-separator centrifuge will come to be a recognized means for large scale production of plasma and serum, either from human or other sources.

The National Institute of Health has set up standards for the processing of normal human blood plasma. While these are designed primarily for the regulation of commercial laboratories engaged in interstate commerce they embrace basic principles of safety and biologic control which should strongly recommend them to any institutional laboratory preparing human plasma.

Essential among these requirements are the following:

1. Careful selection of blood donors, with a serologic test for syphilis on each donor.
2. Maintenance of a completely closed processing system, so that at no time will blood or plasma be exposed to open air.
3. The proper pooling of plasma.
4. Routine bacteriologic culture control.
5. A hemoglobin conception not greater than 25 milligrams per hundred cubic centimeters of plasma.
6. The keeping of complete and accurate records and the placing of adequate labels on final containers.
7. Scrupulous care in cleaning and sterilizing equipment.

The blood donor must be free of any disease transmissible by blood transfusion. It is our routine practice to take a sample of blood for serology at the time of drawing blood for plasma. The sample must be serologically negative for lues if the plasma is to be used.

The Kahn and Kline presumptive tests are used as a screen, being checked by the Wassermann when indicated. In the event of positive or doubtful reactions the blood is held under refrigeration until the donor can be notified to send in another sample or can appear personally. If the repeat tests are completely negative the blood is used. If not, the blood is destroyed or used in experimentation not involving administration to human beings.

As a result of donating to blood and plasma banks thousands of apparently healthy people have had serological tests for syphilis performed on them, many for the first time. In many cases definitely positive reactions are found. We have noted in incidence of about one per cent confirmed positive tests in white donors. As yet we have done no work with negro donors.

Donors exhibiting positive reactions on second test are referred by us to their family physician or health officer for further diagnosis and treatment. In the communities enrolled in our Mobile Unit Donor Program[4] we have enjoyed the splendid coöperation of county and parish health units. They have run preliminary serological tests on prospective donors, not only saving us the trouble and expense of collecting blood which might have to be destroyed, but, far more importantly, increasing the scope of the venereal disease control program.

May I here express also my sincere appreciation to the Health Units for supplying personnel and equipment to carry on the blood donor program.

In some plasma banks, notably those of the military medical services, prospective donors giving a history of malaria within the preceding fifteen years have been rejected, since it was believed that plasmodia could possibly be transmitted to a recipient. We have never been concerned about this since the difficulty of culturing malarial parasites is well known and it is hard, indeed, to conceive of them surviving in stored blood or plasma, especially under refrigeration.

However, it is known that withdrawal of a pint or more of blood may cause a recrudescence of malaria in a donor who has recently recovered. For that reason we do not take blood from anyone giving a history of malaria during the previous two years.

Excessive quantities of fatty substances in plasma will at times cause urticarial reactions in a recipient. Donors are asked to abstain from all fatty and greasy foods and drinks

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The blood donor must be free of any disease transmissible by blood transfusion. It is our routine practice to take a sample of blood for serology at the time of drawing blood for plasma. The sample must be serologically negative for lues if the plasma is to be used.

The Kahn and Kline presumptive tests are used as a screen, being checked by the Wassermann when indicated. In the event of positive or doubtful reactions the blood is held under refrigeration until the donor can be notified to send in another sample or can appear personally. If the repeat tests are completely negative the blood is used. If not, the blood is destroyed or used in experimentation not involving administration to human beings.

As a result of donating to blood and plasma banks thousands of apparently healthy people have had serological tests for syphilis performed on them, many for the first time. In many cases definitely positive reactions are found. We have noted in incidence of about one per cent confirmed positive tests in white donors. As yet we have done no work with negro donors.

Donors exhibiting positive reactions on second test are referred by us to their family physician or health officer for further diagnosis and treatment. In the communities enrolled in our Mobile Unit Donor Program[4] we have enjoyed the splendid coöperation of county and parish health units. They have run preliminary serological tests on prospective donors, not only saving us the trouble and expense of collecting blood which might have to be destroyed, but, far more importantly, increasing the scope of the venereal disease control program.

May I here express also my sincere appreciation to the Health Units for supplying personnel and equipment to carry on the blood donor program.

In some plasma banks, notably those of the military medical services, prospective donors giving a history of malaria within the preceding fifteen years have been rejected, since it was believed that plasmodia could possibly be transmitted to a recipient. We have never been concerned about this since the difficulty of culturing malarial parasites is well known and it is hard, indeed, to conceive of them surviving in stored blood or plasma, especially under refrigeration.

However, it is known that withdrawal of a pint or more of blood may cause a recrudescence of malaria in a donor who has recently recovered. For that reason we do not take blood from anyone giving a history of malaria during the previous two years.

Excessive quantities of fatty substances in plasma will at times cause urticarial reactions in a recipient. Donors are asked to abstain from all fatty and greasy foods and drinks

for six to eight hours prior to bleeding. They are encouraged to partake freely, however, of non-fatty foods such as fruits, jellies, toast and beverages such as carbonated drinks and fruit juices.

In spite of verbal and printed instructions some people will fail to observe the dietary requirements and will have a high lipid concentration in their blood. Fortunately, such heedless individuals are in the minority. More than half of our donors follow the instructions.

What can be done with fatty plasma? Small amounts of lipids, making the plasma only slightly cloudy can be safely disregarded. Greater concentrations may be removed by several methods, although in some laboratories I have visited fatty blood is destroyed. Simplest method for handling slightly or moderately fatty plasma is to pool it with several clear plasmas—so that the lipid concentration in the final product will be minimal.

Plasma can be clarified by passage through Berkefeld or Seitz filters or by adsorption with sterile infusorial earth. Hill[5] states that the cream-separator centrifuge is quite satisfactory for clarifying plasma.

In this hospital we routinely pass the pools of fatty plasma through Berkefeld filters which remove from 95 to 98 per cent of the fat. Formerly we routinely filtered all plasma, but our experience during the past six months has convinced us that this is unnecessary.

I have been asked, both by physicians and laymen, if one "can mix white blood with negro blood." My answer is that *both are human blood.* As far as is known race has absolutely nothing to do with the quality of plasma or serum or blood. Racial characteristics rest in the tissue cells of the body rather than in the blood stream.

In many laboratories plasma is pooled more or less indiscriminately without regard for the blood groups of the donors. I mention this practice to condemn it. A highly useful quality of properly prepared plasma is that it can safely be given to anyone regardless of his or her blood type. However, for this to be a consistently safe procedure adequate attention must be paid to the blood groups of the donors contributing to the plasma pool.

It has been shown that antagonistic blood group agglutinins in pools of serum or plasma inactivate one another[6] and that this phenomenon occurs in a quantitative manner[7]. Further it has been noted that potentially dangerous titres of agglutinins can be obtained in random pooling, the chances for this being greater the smaller the number of plasmas in the pool[8].

Our routine practice has always been to type all blood donors and so form the pools that they contain approximately balanced volumes of the plasmas of each of the four blood types. This balance is obtained by placing in each pool volumes of the different types according to their occurrence in nature. Hence, our plasma pools, containing from 12 to 18 plasmas each, have in them approximately: 40 to 45 per cent. Type II; 10 to 15 per cent. Type III; 40 to 50 per cent. Type IV. Type I, because of its rarity is either absent or seldom present in a concentration greater than 2.5 per cent.

Plasma so produced has been proved safe and reliable by extensive clinical test. At this writing we have experienced no agglutination reactions from more than 2,000 units of plasma processed in the Southern Baptist Hospital. Our general reaction rate from plasma has been slightly less than one-half of one per cent.

Many laboratories do not culture plasma. I do not believe this to be consistent with principles of safety. Routinely we culture all plasma twice, first when a pool is completed and secondly with a pilot bottle when the final containers are filled. The medium used is the thioglycollate preparation of Brewer[9], which, uniquely, is capable of growing aerobic and anaerobic organisms in the same tube.

To date we have had no contaminations of plasma. Largely responsible for this have been adequate sterilization of equipment and routine use of a completely closed processing system. These are far more important factors than the addition of a bacteriostatic agent to the plasma. However, it is generally considered desirable to add a preservative to plasma and we routinely use sodium ethyl-mercurithiosalicylate (Merthiolate) in a 1:10,000 dilution.

Open methods used elsewhere have not infrequently resulted in contamination of plasma and the preservative which will kill or inhibit *all* bacteria is yet to be discovered.

Plasma may be stored as a liquid, or in the

sicated plasma and reports uniformly good results. Although I have heard this procedure criticized as involving a partially open system, innovations which any laboratory worker must devise in meeting day-by-day problems.

The chief aim of the service has been to pooling of whole bloods and excessive hemolysis, I believe that fundamentally it is a sound concept in mass plasma production. The press of work has thus far denied me the pleasure of visiting Dr. Hill's laboratories at Baylor University Hospital. My knowledge of his work is based on a perusal of the literature, personal communications from Dr. Hill and interviews with physicians who have worked at Baylor and who have used and seen used the human plasma prepared there. I personally believe that the cream-separator centrifuge will come to be a recognized means for large scale production of plasma and serum, either from human or other sources.

The National Institute of Health has set up standards for the processing of normal human blood plasma. While these are designed primarily for the regulation of commercial laboratories engaged in interstate commerce they embrace basic principles of safety and biologic control which should strongly recommend them to any institutional laboratory preparing human plasma.

Essential among these requirements are the following:

1. Careful selection of blood donors, with a serologic test for syphilis on each donor.
2. Maintenance of a completely closed processing system, so that at no time will blood or plasma be exposed to open air.
3. The proper pooling of plasma.
4. Routine bacteriologic culture control.
5. A hemoglobin conception not greater than 25 milligrams per hundred cubic centimeters of plasma.
6. The keeping of complete and accurate records and the placing of adequate labels on final containers.
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Plasma may be stored as a liquid, or in the frozen state, or may be dessicated and stored as a powder.

By far the greatest advantage of liquid plasma is its availability for instant use. Also it is the simplest and most economical method of storage. N. I. H. standards permit of its storage and at room temperature use for one year from date of preparation. This limit has been set as safety measure, but work now being done may lead to its being extended beyond a year. Best temperature range for liquid storage is 70 to 85 degrees Fahrenheit, although the temperature may go as high as 100 degrees without rendering the plasma unfit for use.

The possibility of contamination has been frequently mentioned as a major disadvantage of liquid plasma. I maintain that if the plasma is properly prepared, hence sterile, dispensed into sterile bottles under aseptic precautions and hermetically sealed it will remain sterile indefinitely and can become contaminated only if the container is opened improperly.

In the frozen state plasma retains all of its labile components such as prothrombin, complement and antibodies[10]. Rapid freezing is best and should be completed within three to six hours. Various standard refrigerators such as frozen food and ice cream cabinets have been adapted for freezing plasma and generally are satisfactory for this work. The N.I.H. time limit on frozen plasma is three years, although it is not unlikely that this limit, too, will be extended.

When needed, frozen plasma is rapidly thawed in a water bath held between 35 and 40 degrees centigrade, this requiring in our experience about 25 to 30 minutes. Melted, the plasma can be used immediately or stored as a liquid until required. Repeated freezing and thawing of plasma does not seem to render it unfit for use.

Most of the plasma prepared in the dried state is made by vacuum extraction of water vapor from shell-frozen plasma. Dessication is time-consuming, requires constant expert technical attention and is an expensive procedure. Each dose of dried plasma must be accompanied by sufficient sterile intravenous water to restore it to the original liquid volume or, by using smaller quantities of water, the plasma solution can be made concentrated. Dessicated plasma may be stored at room temperature for five years under N.I.H. standards.

When we began the plasma program in the Southern Baptist Hospital, we felt that plasma stored in the liquid and frozen states would be entirely adequate and safe for civilian medical practice. Our experience has so far confirmed this belief. The plasma laboratories at the Touro Infirmary have also been operating on such a basis since they were set up about six months ago.

The greatest portion of our general plasma reserve is carried at room temperature in liquid form, while the major portion of the emergency reserve maintained for the Office of Civilian Defense is kept frozen. Considerable experience has also been gained in shipping liquid plasma by train, bus and auto in Louisiana and Mississippi. No refrigeration is used and results thus far obtained have been very satisfactory.

For military use under field or combat conditions dessicated plasma of course offers many advantages. However, even the military medical services store liquid and frozen plasma in their larger base hospitals and thus far have found such material to be generally satisfactory.

All plasma, regardless of its method of preparation, exhibits more or less of a tendency to form fibrin deposits or clots on standing in the liquid state. This characteristic is absent or nearly so at room temperatures but is very marked at refrigerator temperatures. This makes it imperative that all plasma be filtered during administration to prevent fibrin particles from entering the circulation and becoming potentially dangerous emboli. The stainless-steel mesh filters used in citrated whole blood transfusions are widely employed for giving plasma and are quite satisfactory for this purpose.

It is the duty of the plasma laboratory to see that every bottle of plasma it sends forth bears a label warning of the necessity of filtration.

Liquid plasma may be dispensed undiluted or may be mixed with various concentrations and volumes of dextrose and saline solutions. We prepare it in three ways:

1. Undiluted—stored as liquid or frozen.
2. Diluted with one-tenth its volume of 50 per cent dextrose in distilled water—stored as liquid or frozen.
3. Diluted with an equal amount of 5 per cent dextrose in saline—stored only in the liquid state.

identical quantity of actual plasma, namely 250 cubic centimeters of the citrated product. We designate 250 cc. of citrated plasma as the unit of plasma. Its protein content will vary from 5.5 per cent to 7.5 per cent, depending on the time of storage in the pooling flasks in the refrigerator. Usually we hold the plasma in the flasks for four to six weeks to obtain the maximal fibrin precipitation before dispensing it into the final containers for room temperature storage. Plasma thus treated shows an average protein content of 5.6 per cent, this being chiefly in the form of albumin and globulin. About 85 per cent of the osmotic power of plasma is due to the albumin fraction.

In 1941 Strumia and McGraw[11] tabulated the indications for whole blood and plasma therapy. With modifications based on our own experience we have found this excellent summary to be a useful guide in the administration of blood and plasma. Let us now consider certain clinical conditions:

1. SHOCK—WITH LITTLE OR NO HEMORRHAGE: Plasma is indicated here. It is far superior to crystalloid solutions the therapeutic benefits of which are often only transient. Plasma, because of the osmotic pressure of its colloids, helps to restore and maintain the blood pressure by preventing the transudation of water from the capillaries into the tissues. In these cases of shock with little or no hemorrhage we have found undiluted plasma and plasma with dextrose and saline about equally effective.

2. SHOCK—WITH SEVERE HEMORRHAGE: Plasma is a highly effective emergency measure here, even in the presence of hemorrhage. The patient in shock from blood loss needs fluid to keep his remaining erythrocytes circulating so that tissue oxygenation can be maintained. Plasma acts to restore the fluid volume of the blood, giving the heart something to send the red blood cells around in and also maintains the blood protein level. Obviously, the emergency plasma infusion should be followed by whole blood in these cases.

3. BURNS: Chief factors in the pathologic physiology of burns are the hemoconcentration and hypoproteinemia brought about by the loss of water and colloids in the burned areas and by transudation of water from damaged capillaries into the tissues. Whole blood is definitely contraindicated. Plasma is the agent of choice, since it relieves the hemo-concentration and restores the lost proteins in the blood.

4. INFECTIONS: When severe anemia is present, whole blood should be given. In the absence of anemia plasma is indicated as a source of specific and non-specific antibodies. Such plasma should be freshly prepared or else quickly thawed and immediately used from the frozen state.

5. HYPOPROTEINEMIAS OF NUTRITIONAL, NEPHROTIC, HEPATIC OR ECLAMPTIC ORIGIN: Plasma is decidedly indicated here. It restores and maintains the blood proteins. In the presence of marked anemia whole blood should also be given.

6. CEREBRAL EDEMA: To increase the osmotic pressure of the blood stream and shift the fluid interchange from tissues to blood vessels plasma should be administered. In these cases it is best used in undiluted form, so as to reduce the volume of water introduced into the circulation. Or concentrated plasma may be used.

7. BLOOD DYSCRASIAS: The presence of hemolytic and hemophilic tendencies and low prothrombin are indications for plasma therapy. Here again is a condition wherein freshly made or frozen plasma is best because of the full quota of labile components.

In those dyscrasias exhibiting hemorrhagic tendencies whole blood is to be used rather than plasma.

8. ANEMIAS: Whole blood is the agent of choice here. Plasma has, however, been found useful as a palliative measure in hypoplastic anemias.

9. ACUTE POISONINGS: In toxic conditions in which the oxygen carrying power of the blood is inhibited (as in carbon monoxide asphyxia) whole blood is most definitely indicated. Plasma would be of little or no use here.

With regard to the use of concentrated plasma I would point out that in the presence of dehydration, as seen in some shock and burn cases, it must be used circumspectly, with a proper regard for the water requirements of the patient.

It can be realized that plasma is more than a blood substitute. In many cases it is a primary therapeutic agent in its own right.

I wish it were within my power to formulate a general rule for plasma dosage. This I cannot do—each patient must be considered individually. I have seen patients in postoperative or postpartal shock, their blood pressure so low as to be unreadable, their pulse rapid and weak, their complexion cyanotic, fail to

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respond to glucose or saline infusions or to respond only transiently. Yet the administration of a single unit of plasma has often been sufficient to bring such cases back to approximately normal physiological level in a few minutes. In some patients an additional unit or two of plasma may be needed to bring the situation under control. Each case must be carefully weighed in the judgment of the physician.

Burned individuals frequently will require the administration of several hundred or thousand cubic centimeters of plasma in 24 or 36 hours. Here, in burn cases one may be more definite as to dosage. Harkins[12] uses the hematocrit for deciding dosage in burn patients. For each point the hematocrit is above the normal of 45, the dose of plasma is 100 cubic centimeters. Thus if the hematocrit is 50, the dose of plasma would be 500 cubic centimeters. This method works just as well as several much more complicated calculations.

Another clinical laboratory test useful in guiding plasma and blood therapy is the falling-drop serum protein determination. Like the hematocrit it is simple to do, gives accurate and pertinent results.

Aptly enough, plasma therapy has been referred to as "blood transfusion by remote control[13]." Its safety and efficacy as a therapeutic agent are well established, as witnessed by several hundred clinical reports from all over the world. It has come to be almost universally available, it has saved thousands of lives, it will save many more. It has gone to the ends of the earth with our soldiers and in our fighting ships. It is equally useful in a jungle first-aid post as in the operating room of the most modern hospital. Above all, consider its availability in emergencies, especially those in which shock is the predominantly deadly factor and minutes are as hours in the life of the patient. What matter the cause of that shock, whether postpartal hemorrhage or fragment of high explosive shell? In any case the need is urgent and plasma, because of its readiness for instant use, meets that need.

In conclusion, may I be allowed to prophesy that the human plasma laboratories will come to be of historical interest only. Already, advances have been made elsewhere in the study of animal blood derivatives and synthetic substances. It is an immense problem in physiological chemistry, but I am convinced that it will be solved—maybe in five years, perhaps in ten. When that time comes, the human plasma laboratories will become a chapter in the advancing annals of medical progress. But they will leave behind them the record of a duty well performed. They will have stimulated research, they will have helped to save lives, in short they will have usefully served humanity—beyond that there can be no greater reward in medicine.

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DISCUSSION

DR. K. O. STINGILY (Jackson)—We in Meridian are organizing now a blood bank, but unfortunately I am not in a position to give you a great deal of information on that at present. We have all of our equipment in with the exception of the centrifuge, and we are planning on a bank of about 450 units which comes under the advanced set-up. Ours will be the general principles that are used in the other blood banks which Dr. Davenport has told you about.

DR. N. C. KNIGHT (Meridian)—May I say that arrangements have been made with the Civilian Air Patrol to supply this plasma to any part of the city to which it is necessary for it to go. It will be available for both civilians and military use and the reason is that the Meridian Junior Chamber of Comidentical quantity of actual plasma, namely 250 cubic centimeters of the citrated product. We designate 250 cc. of citrated plasma as the unit of plasma. Its protein content will vary from 5.5 per cent to 7.5 per cent, depending on the time of storage in the pooling flasks in the refrigerator. Usually we hold the plasma in the flasks for four to six weeks to obtain the maximal fibrin precipitation before dispensing it into the final containers for room temperature storage. Plasma thus treated shows an average protein content of 5.6 per cent, this being chiefly in the form of albumin and globulin. About 85 per cent of the osmotic power of plasma is due to the albumin fraction.

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2. Shock—With Severe Hemorrhage: Plasma is a highly effective emergency measure here, even in the presence of hemorrhage. The patient in shock from blood loss needs fluid to keep his remaining erythrocytes circulating so that tissue oxygenation can be maintained. Plasma acts to restore the fluid volume of the blood, giving the heart something to send the red blood cells around in and also maintains the blood protein level. Obviously, the emergency plasma infusion should be followed by whole blood in these cases.

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DISCUSSION

Dr. K. O. Stingily (Jackson)—We in Meridian are organizing now a blood bank, but unfortunately I am not in a position to give you a great deal of information on that at present. We have all of our equipment in with the exception of the centrifuge, and we are planning on a bank of about 450 units which comes under the advanced set-up. Ours will be the general principles that are used in the other blood banks which Dr. Davenport has told you about.

Dr. N. C. Knight (Meridian)—May I say that arrangements have been made with the Civilian Air Patrol to supply this plasma to any part of the city to which it is necessary for it to go. It will be available for both civilians and military use and the reason is that the Meridian Junior Chamber of Commerce has sponsored the project and has raised a considerable sum of money to finance the civilian supply that would be available for automobile accidents, burns and things like that.

Public Health in Mississippi Under Wartime Conditions*

FELIX J. UNDERWOOD, M.D.

Executive Officer
Mississippi State Board of Health

JACKSON, MISSISSIPPI

MUCH ACTIVITY and many changes have taken place in the short period since Pearl Harbor. The American people have responded well to the huge demands for making this country the arsenal of democracy, but in so doing the comfortable picture of peacetime existence has faded into the background. Public health activities have been accelerated and there has been renewed emphasis upon the importance of *health* as a nation's chief asset in winning any sort of victory. "Eternal vigilance" is the watchword in preventing outbreaks of communicable disease and in suppressing any other menace to the public health. The efficiency of our military forces, our civilian population producing the equipment for fighting, and the state of our national morale and effort are dependent upon freedom from preventable diseases and the maintenance of a good state of health generally. Public health workers are in an exceptionally favorable position to aid the war effort because of their peacetime training and experience. Gauged by the achievements in this field in recent years, I believe that the days ahead will hold for all of us increased responsibility and greatness of opportunity.

To meet wartime needs there has been expanded activity in such specialties of public health as: industrial hygiene, sanitation, venereal disease control, maternal and child health, and tuberculosis control. Local public health programs have had to be adjusted in keeping with the emergency conditions associated with influx of military and civilian populations. As a result of the manner in which local health problems have been met there has been no unusual prevalence of disease in any section of the state. We can be thankful that severe epidemics of many of the diseases which characterized other war periods are today only minimum hazards because of the continuous application of public health measures for their control. The chief disease problems of this war are the venereal diseases, various diseases of the respiratory tract including influenza and tuberculosis, and insect-borne diseases.

There has been a disturbing increase in the amount of meningococcus meningitis in the state during 1943, as compared to previous periods. The majority of the cases were at military establishments, but since the communicable disease incidence of such areas is usually indicative of surrounding civilian population areas, a close watch has been kept with a view to instituting such control measures as are effective.

Reported cases of tuberculosis in Mississippi increased in 1942 over 1940 and 1941. In 1940 there were 1,390 cases; in 1942 there were 1,425 cases; and in the first three months of 1943, there were 271 cases. Long wars, accompanied by privation, have always seemed to bring about an increase in tuberculosis and we can expect no exception in the present war unless we are alert to institute measures to prevent spread of infection and to maintain in general a high level of resistance. Malnutrition, crowding, and exposure to infection brought about by the acceleration of industry ment and control of hazardous or potentially hazardous operations. Production of goods and implements is one of the most vital phases of the war effort. Consequently the state and the nation are concerned with employee health and its conservation.

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*Presented before the Public Health Section, Mississippi State Medical Association, Jackson, Miss., May 11-13, 1943.

With the birth rate increasing steadily during the past year or two, it has become apparent that some provision needed to be made for the wives of certain enlisted personnel in the armed services. Mississippi has just received approval of the Children's Bureau of a plan providing needed obstetric and pediatric care to wives and infants of enlisted men in the armed forces of the fourth, fifth, sixth, or seventh grades. Through a special federal appropriation, it will be possible to provide some compensation for the physician and hospital and at the same time safeguard the families of America's fighting men. The program will not be activated in the entire state at once because of insufficient personnel available to handle the detail necessary to its inauguration on a state-wide scale at one time The direction in which the program will be extended first depends upon the areas in which need is greatest; therefore, for specific details, it is urged that you contact the director of Maternal and Child Health of the State Board of Health. The State Board of Health, through this particular division, is undertaking the program in a purely administrative capacity, and cannot directly furnish care. Many physicians and institutions throughout the state have been doing an excellent job in giving this care without any visible remuneration, and we welcome the opportunity of securing for them at least a nominal fee through this proposed program.

The activities of practically all of the divisions of our public health organization have been considerably handicapped in recent months by the loss of vital personnel, many of whom it has proved difficult and sometimes impossible to replace. It is hard to envision the difficulties in conducting the barest essentials of a public health program without first-hand observation. Just when we think a situation is well in hand, a new problem or set of problems crop up in another place. As public health personnel is lost to the armed forces, time must be consumed in training replacements and often important phases of the program must be put aside or deferred pending the addition to the staff of someone competent enough to carry them out. Much effort has been put forth to recruit needed personnel, especially county health officers, public health nurses, sanitation supervisors, dental hygienists, and clerks. Although the need has been urgent, the preliminary period of training has been kept at a high level. Several counties which had made appropriations for the support of full-time health services have been unable to have such services inaugurated due to unavailability of trained personnel. In order that these counties might have limited protective health service, a clinician and a public health nurse have been carrying on an immunization program and helping in numerous other ways.

Because of the tremendous problems presented by the war, public health undoubtedly faces one of the greatest challenges since its evolution as a science. In fact, there is no question but that medicine and public health, along with the other sciences, face some of the greatest challenges and opportunities of all times.

As physicians and health officers we should be quick to detect the major health problems which lie before us and, realizing the important contribution which can result from wise leadership by the life-saving forces of our profession, make ourselves ready to meet the increasingly heavy demands which come with total war. We can feel somewhat repaid for our special efforts and sacrifices if out of this chaotic period of the world's history we shall have been able to add enough substance to our present-day armamentarium to offset in some measure the tragic toll of the battlefield. This war, we hope, will soon be over, but the fight against disease is an unending one. Against the dark clouds of misery and suffering, there shines a gleam of hope for present and future generations, for there have come amazing improvements already to prevent death and protect against disease, with indications of many more to come. We have overcome many obstacles in the distances covered in recent years; we shall therefore face the future determined that we shall let no obstacle deter us from achieving the potential good within our reach. I have faith that every Mississippi physician and health worker will do his best.

DISCUSSION

DR. J. A. MILNE (Jackson)—"More work—fewer workers" was the opening sentence of a recent address made by the Assistant Surgeon General of the United States Public Health Service. We all hear these words from every field of endeavor whether we are interested in public health, education, labor, or what not. We, as physicians, both in the field of curative and preventive medicine, know all too well the implication of these words. We have watched and seen our ranks of physicians, nurses, technicians, and office helpers thinned by the "gone to the services," or "gone to war industries." Yet, we as physicians also know that each of us is endowed with what we might term a second self that allows us to increase our output of work and take on added duties without greatly endangering our physical or mental health. True, these will be taxed but not damaged unless this conflict stretches into many years instead of months.

Doctor Underwood implies this in his reference to the heavy load carried by several divisions of the State Board of Health; namely; Vital Statistics, Laboratories, and Sanitation, which by prodigious effort have surmounted the obstacles presented by wartime conditions.

In the local health departments this accelerated pace, plus more work—fewer workers, has been greatly felt. The demand for service in the already established fields of public health has increased, while also crying for attention are the newer fields such as nutrition, mental hygiene, and cancer control.

For a number of years we have been encouraging the health workers to follow the principles set forth in the motto: "See an opportunity in every difficulty instead of a difficulty in every opportunity." Since the onset of the war we have had many difficulties in public health work, but on the other hand we have had many opportunities to perform services that could not be accomplished with the ease and effectiveness which we are now doing. For instance, in the field of venereal disease control: It is true we were embarked on a program of control prior to the onset of the war, but on account of the increased interest in this disease by the public generally, the high proportion of selectees being deferred on account of venereal diseases, and interest in prostitution both professional and clandestine we find that law enforcement officials are much more willing to coöperate in compelling delinquents to attend clinics, and labor employers are much more coöperative as a rule in having their employees take treatment although it means a temporary disruption in their activities. This all may mean larger clinics with continued treatment leading to a high percentage of cures.

We have had a great development in water and sewage improvement, especially in the defense areas such as Hattiesburg, Biloxi, Pascagoula, Jackson, McLaurin, Centerville, and New Augusta—only to mention a few of the towns and cities affected.

Milk production as an industry has taken on added expansion and importance.

The Federal Works Agency has approved for construction, and has actually built in certain areas or provided health department clinic buildings. Full-time health departments were organized in two of the defense areas during the past year.

The above illustrates only a few of the immediate opportunities that have been presented to us in public health work. Of greater importance than the immediate results effected is the fact that there shall be a carry through of the advantages to the civilian population when the war is over. Syphilis will have been decreased. Certain areas will have greatly improved water and sewage systems. The milk industry will have been expanded on the basis of being able to produce high grade milk. Health department clinic facilities will be available for serving the population. Certain areas will have gained in the advantage of having full-time health services.

It has been hard to envision the difficulties in conducting the barest essentials of a public health program. Those of us who have had firsthand observation of the shrinking and changing personnel in the local health departments, have had the darkest fears for a drastic curtailment of activities. But we have had these fears dispelled with great satisfaction and comfort as the reports show that essential services are being continued although in many instances one person is performing services in a very creditable manner that were formerly carried on by two. These field workers, many of them raw recruits, who have had to gain experience the hard way on the job, are imbued with the spirit that every effort must be made to keep as physically perfect a population as possible, for loss of working time on account of illness, spells loss of production. One of the most important means of keeping up the morale of our armed forces is to give them the assurance that their family is being cared for and that they do not need for medical services during their absence. Public health workers can do much toward creating this feeling.

I just wonder if we sat down and recounted our blessings if they would not far outnumber the difficulties, problems, and worries with which we have been confronted during the past year. Many private physicians in the state have helped in our health department clinics. It is only through this assistance for which we are most grateful that health department work could have been carried on as well as it has been done. The medical profession as a whole has been most coöperative. I hope that all our health department personnel will be mutual in their coöperativeness and consideration of the physicians in their county.

DR. B. D. BLACKWELDER (Jackson)—An attempt will be made to discuss this excellent paper from the standpoint of public health in a county of approximately 50,000 population, composed of one-third colored and two-thirds white, in which is located a large army camp. In previous mobilization of armed forces, the army has exercised through the local camp commander the power to control public health problems. Only during the present emergency have the military authorities recognized local and state health departments and solicited their coöperation in the solution of these problems in their respective areas. This has necessitated an adjustment on the part of the military authorities and also the local and state health departments in their effort to reach an agreement on certain principles relating to the prevention and control of certain diseases which affect the military personnel. Their previous policy has been yea, yea, and nay, nay, having all the authority necessary which might affect the health of the soldiers. The local and state public health organizations have rules and regulations which are based upon civil law, and, as such, must take the regular course of civil courts, and the application of these rules and regulations must necessarily be based upon the exercises of good judgment on the part of the local and state health authorities whose duty it is to enforce them. This, of course, is more or less foreign to the military method of procedure. Fortunately, through the coöperation of the U. S. Public Health Service and State Board of Health, local programs have been developed within the past few years which were designed to meet just such an emergency as exists in the mobilization of military forces. Therefore, when army camps were located, aside from the acute housing conditions, and, in some instances, acute sanitary conditions, the program administered by an increased personnel was adequate to care for the increased public health problems which arise in army camp areas. As stated in the writer's paper, acute housing conditions and the associated sanitary conditions have in many areas presented a very difficult problem in that the necessary material for the installation of adequate sanitary facilities has been frozen by the federal government and is released only upon priorities, which in many instances are either not granted at all, or they would certainly think they were breaking the speed limit if such were granted within two years of the time of application. In almost every instance, it has been necessary for the federal government to make grants for adequate provision of the proper facilities, and in no instance in my mind has this been consummated within two or two and one-half years. One can imagine what might happen in that length of time in very acute conditions. It so happens that the public health program of the State Board of Health and local health departments has so fortified the general public against some of the diseases which might be transmitted by an inadequate sewage disposal system that there has been no major outbreak of these diseases as a result of the failure of the federal authorities to correct these conditions earlier than they have.

By far the greatest public health problem which has arisen in most camp areas is the increase of venereal disease incidence. For the past five years the State Board of Health, through the coöperation of the U. S. Public

Health Service, has made available treatment for all cases of syphilis who are not able to pay for private treatment and to provide the necessary epidemiological work to prevent to a limited degree the spread of the disease. This was very effective in controlling the disease among the local civilian population; however, as the influx of various types of girls and women from other areas, who are inclined, with a little encouragement to become a problem in the control of venereal diseases, this local advantage was soon overcome and we find ourselves dealing with a representation of the population of the entire country as a whole and not any one locality. As stated above, the negro population in Forrest County is about one-third of the total, and about sixty per cent of the services of the Forrest County Health Department are rendered to this part of the population. The venereal disease rate among them is about ten times greater than that prevailing among the white population. Even though there has never been a great percentage of negro troops in this area, the venereal disease rate among the negro enlisted personnel has been comparatively high. Therefore, the biggest problem in the prevention and control of venereal disease lies with the negro population. To this end in Hattiesburg, Mississippi, where there resides approximately 10,000 negroes, there have been three additional clinics set up for the treatment of venereal disease among this race with a full-time negro physician, negro nurse, secretary, and educator. This project was designed as an experiment to see if the negroes would be able to solve their own venereal disease problem where adequate facilities were furnished. These clinics have been in operation now about one year, and it is my opinion that the experiment is more or less a failure. The civilian negro population does not seem to be able to cope with the venereal disease problem and are not coöperating whole-heartedly with the authorities in an effort to rid themselves of this menace to their health.

An analysis of the services of the Forrest Couny Health Department reveals, as stated above, that approximately sixty per cent goes to the negro race and that approximately $2.10 per capita is being spent for the promotion of health among these people in Hattiesburg. The per capita expenditure for health service in Forrest County as a whole is about 80c.

Doctor Underwood spoke of a rehabilitation program for the delinquent girls in army camp areas. This, to my mind, is a most constructive program. If conditions exist after this world war as have always existed after every war, the delinquency among our youth will be appalling. If some program is started now and the machinery put in operation, during the post-war constructive period, a great problem can be satisfactorily solved, and unless the various agencies concerned set up this machinery now, it will be too late after the war closes.

I again wish to thank Doctor Underwood for this valuable paper and commend it to everyone for serious consideration.

DR. UNDERWOOD (closing discussion)—There is nothing further except to express my thanks to my associates who were kind enough to discuss the paper. I appreciate the opportunity to present it and appreciate their discussion very much.

An Analysis of One Hundred Cases of Poliomyelitis Treated at Children's Medical Center

HUGH LESLIE MOORE, M.D.
RUTH ALLEN, M.D.
DALLAS, TEXAS

ONE HUNDRED cases were treated; age distribution showed 31% two to four years old, 31% from five to ten years, 2% one to six months, 14% six months to two years, and 22% eleven to fifteen years.

The very first symptoms noted were:

1. Pain in 30 cases and of these 18 complained of headache, 7 of backache, four of neck pain, and one of abdominal pain.
2. Gastro-intestinal upset occurred in 37 cases.
3. Sore throat in 19 cases.
4. Weakness in 5 cases.
5. Convulsion in 1 case.
6. Listlessness, later followed by paralysis. 6 cases.

There cases followed tonsilloctomy and adenoidectomy, and two of these were definitely severe bulbar cases.

By the time the cases reached the hospital all but one or two had stiffness in the neck, back, and hamstring muscles. About 50% of the cases had had one of the sulfa drugs prior to hospitalization. All of the cases seen had a temperature elevation from 102-104 degrees during the acute onset. During the febrile period most of the children were quite lethargic, the more severely ill ones being very cross and unresponsive showing definite personality changes. The temperature was usually normal within seven to nine days after onset.

At least 90% of the patients experienced marked constipation, only four or five cases showed bladder retention. It is dangerous to catheterize such patients.

Diagnosis of cases was made on clinical symptoms and laboratory findings. The spinal fluid cell count varied from 9 cells in a very severe case to 750 cells in moderately severe cases. There seemed to be no correlation between the number of cells in spinal fluid and severity of case. The Pandy test for protein increase was positive in over 75% of the cases. Later in the disease the cell count dropped to normal, but the Pandy test became more positive.

There were fifteen bulbar cases with ten deaths. The bulbar showed:

1. Voice changed to nasal type.
2. Vomiting and regurgitation of food through both nose and mouth.
3. Difficulty in swallowing.
4. Large amounts of mucus.
5. Rapid, shallow, and often irregular breathing.
6. Marked apprehension.

As condition became critical there was:

1. A dusky color and finally cyanosis terminally.
2. Extreme restlessness.
3. Ascending temperature in some and finally the patient became quite irrational.

In these cases most of the paralysis occurred within the first week, but occasionally extension was noted during the second week. The patients who had severe pains in their extremities and who were unable to assume normal body alignment because of pain and who were not relieved by hot packs in 24 to 36 hours showed finally a marked loss of function and also had the worst prognosis as to return of function. The facial paralysis cases seen were almost entirely on the left side and th muscles were very slightly involved.

Several cases were sent in with a diagnosis of poliomyelitis but further diagnostic studies proved them to be:

1. Tetanus, 2 cases.
2. Septicemia, 2 cases. both St h albus.
3. Acute pharyngitis, few.
4. Gastro intestinal upset, fe
5. Encephalitis, 3 question le cases, no proof.
6. Local injuries, two.
7. Deep gluteal abscess one.

The treatment consis d of the routine

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*From the Department of Pediatrics, Medical School of the Southwestern Medical Foundation, Dallas, Texas.

Kenny treatment under direction of physiotherapist from Warm Springs Foundation. Late in the epidemic prostigmine was used with good results as to increasing the range of passive motion. At the time of this study there had been ten per cent mortality, thirty-two per cent had been sent home without packs, fourteen per cent with packs, and twenty-four per cent had been transferred to a convalescent hospital.

Bulbar cases were treated with five minute packs to chest, oxygen and suction were used as needed. Concentrated plasma and parenteral fluids were given to several of the patients. All bulbar cases were fed with a spoon and not with a tube. It was found that milk and milk products seemed to increase the amount of mucus formed.

Birth of the Southern Medical Association*

JERE L. CROOK, M.D.
JACKSON, TENN.
and
WALTER W. CRAWFORD, M.D.
HATTIESBURG, MISS.

THE EVOLUTION of American medicine has been colored by the thinking of the medical profession of the South since early Colonial days. Increase in population brought its added quota of doctors and the organization of these into an ethical group resulted finally in a national organization, the Amercan Medical Association. The expansion of the American Medical Association reached a point where the individual as well as community lost his identity in the comic mass.

There was a growing feeling among men of the Southern group of states that a Southern medical association should be organized. This idea was not due entirely to a lack of recognition of the men of the South in the national organization, but rather to the desire for the more intimate study of some of the problems of Southern medicine as well as the opportunity for closer fellowship among this smaller group at its annual meetings. This concept was crystallized in a meeting of the Nashville Academy of Medicine in 1906. Dr. Giles C. Savage, president of the Tennessee State Medical Association, was named chairman of a committee to communicate with the presidents of the state associations of Louisiana, Mississippi, Alabama, Georgia and Florida, and ask them to send delegates to meet with the Tri-State Society of Alabama, Tennessee and Georgia, at its October meeting in Chattanooga, 1906. In order to amplify the records, one of these letters is quoted in full:

G. C. Savage, M.D.
137 Eighth Ave., North
Nashville, Tenn.
August 10, 1906

Dr. W. W. Crawford, President Mississippi State Medical Association,

Dear Doctor:

We write you as president of your state association, concerning the organization of a Southeastern district branch of the American Medical Association, to include the following states: Tennessee, Georgia, Alabama, Florida, Mississippi and Louisiana, and probably Kentucky, though it now appears to us that Kentucky might wish to enter the formation of a district branch with the states immediately north of her. You have doubtless read in the Journal of the Association that the Southwestern District Branch of the A.

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*Prepared and presented at the annual meeting November 1939, Memphis, Tenn.

M.A. had practically been organized, including Kansas, Missouri, Arkansas, Oklahoma and Texas. Last night in the Nashville Academy of Medicine, we discussed the matter extensively, and there was not a dissenting voice when the vote was taken to appoint the undersigned a committee to correspond with yourself and others, presidents of their respective associations. We were directed by the resolution to call a meeting of representatives of the six or seven associations named above, at Chattanooga on October 2 of the present year, with a view of taking the first steps towards a permanent organization. This time is the same as the meeting of the Tri-State (Tennessee, Alabama, Georgia) Medical Association. We desire that you shall send to this conference the same number of delegates as that to which you are entitled in the House of Delegates in the A.M.A. There should be an alternate appointed for each delegate, and we would suggest that both the delegate and his alternate be encouraged to attend. At this meeting the question would be decided as to the feasibility of effecting a permanent organization, and if found desirable, a temporary organization will be effected, and the time of completing the organization will be fixed.

To our minds is great need for bringing these district branches into existence, and the need is especially in the direction of training our young men by giving them opportunity for work. The sections of the A.M.A. have grown so large that the opportunity for discussing papers is not such as to make our young men bold enough to attempt to speak, even though they may have some good thoughts to present. Much more might be written in favor of our having the Southeastern District branch, but this letter has already grown too long. Please let me hear from you, and also let us know the names of the delegates and alternates whom you will appoint. The meetings will take place in the Read House, Chattanooga, at 9 o'clock, on the morning of October 2. Let us have your personal views on this matter, and, if possible, be at the meeting yourself. Instruct your delegates to get a certificate from the agent when they buy their tickets.

Yours fraternally,
G. C. Savage, Ch.
A. B. Cooke.

In compliance with the above invitation, delegates from the six Southern states mentioned met at Chattanooga on October 2, 1906, one day prior to the date of the annual meeting of the Tri-State Association of Alabama, Georgia and Tennessee. After a conference, a committee of delegates prepared the following resolution of the Tri-State Association:

RESOLUTION

October 2, 1906

"The undersigned, delegates from the states of Tennessee, Georgia, Alabama, Mississippi, Louisiana and Florida, having met by appointment in Chattanooga to devise a plan of organization for a Southern medical association, in direct affiliation with the American Medical Association, recognize that it is eminently fitting that a Southern medical association be formed from the district comprised in the states of Mississippi, Tennessee, Georgia, Alabama, Louisiana and Florida, which states by reason of their geographical location and similarity as to population naturally fall into a congenial relationship."

"We rocegnize that a greater opportunity for self-improvement and achievement in the realm of scientific research is required by the progressive and cultured physicians of this district than is afforded by the states' societies, and which, on account of its large membership, is denied them in the American Medical Association. We believe that the profession as a whole will be benefited by such a society, and assuredly that the members of this organization will have excellent opportunities to develop their talents. We believe that such an organization will be a long stride forward in perfecting the plan of organization which has been so splendidly carried out by the American Medical Association, and bring all the members in the district into closer touch and more perfect harmony with each other and the national association."

"To accomplish this plan the more perfectly and successfully, we therefore recommend that the Tri-State Medical Association of Tennessee, Alabama, and Georgia here agree to merge itself into this larger dy, and hereby become the nucleus for its ormation. In so doing, its sphere of usef ess will be enlarged and its members will all be brought into direct affiliation with the American Medical Association."

"We recommend that the name of this organization be the Southern Medical Association. We invite the careful consideration of the medical profession of the states abovementioned to the reasons given therefor, and extend a cordial invitation to them to join with us in making this one of the most influential and important bodies of medical men in the United States."

Respectfully submitted,
Chattanooga, Tenn.
October 3, 1906

Signed:

A. B. Cooke, Tennessee
J. L. Crook, Tennessee
S. R. Miller, Tennessee
H. H. Martin, Georgia
W. W. Crawford, Mississippi
Mack Rogers, Alabama

Dr. H. H. Martin, president of the Georgia State Society, Dr. Walter W. Crawford, president of the Mississippi State Society, named as a committee to form a tentative constitution and by-laws for the new organization with the idea that it be considered a Southern District Branch of the American Medical Association, and present it to the Tri-State Medical Association of Alabama, Georgia, and Tennnessee at its annual meeting in Chattanooga the following day. It was the hope and purpose of this committee that this small body of two hundred members founded by Dr. J. B. Cowan, of Tullahoma, Tennessee, who was surgeon of the staff of General Robert E. Lee in 1861 to 1865, would agree to merge itself into a larger group of six states consisting of Louisiana, Mississippi and Florida in addition to the original tri-states of Alabama, Georgia and Tennessee, the new association to be known as the Southern District Branch of the A.M.A. These were the suggestions made to all three of the committee members by Dr. G. Savage, president of the Tennessee State Medical Association.

The night preceding the opening session we spent in the old Reed House and when we began the task of writing the constitution we unanimously decided to depart from our instructions and to draft a tentative contitution for a Southern Medical Association entirely independent of the A.M.A., which would eventually embrace all the sixteen Southern states and the District of Columbia. The Committee spent the entire night on the preparation of the document in order to have it in shape to present to the Tri-State Medical Association as the first business of the initial session the next morning.

As chairman of the committee, it became my duty to present the tentative constitution to the meeting and attempt to induce that small but loyal group composing the Tri-State Medical Association to dissolve, "that and resolve themselves into a dew,"—to die in order that that baby Southern Medical Association could be born. The chief obstacle to our plan was the well-known opposition of the founder of the Tri-State, Dr. J. B. Cowan, of Tullahoma, who very naturally was loath to destroy his own brain-child.

The president of the Association gave the committee right of way over its regular program and on motion of Dr. Cowan requested thta I present the document as a whole first, and then present it section by section for adoption or rejection.

I took my stand immediately opposite the old war-horse whom I had to win over or else fail utterly in our purpose. In closing I pled on behalf of the young physicians of the Southern states for a wider field to engage our talents than the confines of our respective states. I asked for a stimulus, an incentive to spur us on to worthy deeds, to more intensive study, to greater accomplishments in the field of medicine and surgery. I tried to make them visualize a great Southern Medical Association whose programs would deal with diseases peculiar to the Southern states and would present to the world the results of the research, the clinical experience at the bedside and in thhe operating room of the splendid body of men composing the ranks of thhe medical profession of the South.

My plea was ably and enthusiastically buttered by Dr. Crawford and Dr. Martin, and when we completed the presentation, Dr. Cowan arose and under the stress of visible emotion stated his determination when he first learned of the plan to fight any move to kill his own brain-child. He spoke of the fine record of the Tri-State Association and of the love and loyalty of its membership for the society. "But," said heh, "Mr. President, after listening to the plea of these ambitious young doctors who have come here today asking for a chance to try their wings over all of Dixie-

Land, I move that we adopt this tentative constitution as a whole, without changing one jot or tittle." The motion was carried unanimously and thus was born the Southern Medical Association.

Immediately thereafter a nominating committee was appointed with instructions to report promptly. In a short time the following names were presented by the committee and unanimously elected as the first officers of the newly born Southern Medical Association: president, Dr. H. Martin of Savannah, Georgia; vice-presidents, Dr. Mack Rogers, Birmingham, Alabama, Dr. J. B. Cowan of Tullahoma, Tennessee, and Dr. J. R. Tackett of Meridian, Mississippi; secretary, Dr. Raymond Wallace, of Chattanooga; treasurer, Dr. W. K. Abernathy, Chattanooga. The newly elected officers were installed, and Birmingham, Alabama, was selected for the first meeting of the new organization to be held the first Tuesday in October, 1907.

The first regular meeting was held in Birmingham, October 1907, with Dr. H. H. Martin, the first president, presiding. Dr. B. L. Wyman of Birmingham was elected president. Dr. Oscar Dowling of Shreveport was named secretary and the *Shreveport Medical and Surgical Journal*, of which he was editor, was made the official organ. He held the position until his resignation at the 1909 meeting in New Orleans, at which time Dr. W. W. Crawford of Hattiesburg, Mississippi, was elected president and Dr. Seale Harris of Mobile was elected secretary and his journal, the *Gulf States Medical and Surgical Journal*, became the official organ of the association, with Dr. Harris as editor. Dr. Harris continued in both positions until 1921, at which time he resigned and was named president of the association.

At this time the Southern Medical Journal, then published in Nashville, under the editorial guidance of Dr. John A. Witherspoon, was absorbed by Dr. Harris for the sum of $5,000.00 and was combined with the *Gulf States Medical and Surgical Journal*. This merger afforded an official organ of outstanding merit and has been published since that date as the Southern Medical Journal.

At the Hattiesburg meeting in 1911, it was decided to expand the association to include the entire South. Mr. C. P. Loranz was elected business manager in 1911 and in 1921 he became secretary. He has continued to fill both positions efficiently to this date (1939). After the resignation of Dr. Harris in 1921, Dr. M. Y. Dabney became editor of the journal and Mrs. Eugenia Dabney associate editor.

Quote from Dr. Harris:

"It was agreed at Hattiesburg that I was to finance the Southern Medical Association (this expense to be offset by receipt of all dues by Dr. Harris) and I was given carte blanche to use any methods he felt necessary to increase the membership. We then started publishing the *Bulletin of the Southern Medical Association*—25,000 of which were mailed to the doctors in the sixteen Southern states—and ever since then the *Bulletin* has been issued two or three times a year and sent to 25,000 doctors and there was a deficit of something like $3500.00 a year for a period of three or four years. By 1914 the Association and the journal were on a paying basis and at that time I made an offer to the Association to sell the journal to the Association the next year, to be found in ten years out of the net earnings of the Association; the amount to be paid was to be the average yearly net earnings of the journal for three years. He also agreed to continue to serve as secretary of the Association and as editor of the journal without pay. The journal was taken over in 1921. At the 1915 meeting, Ed Carey, Stewart McGuire, and others were appointed as a committee to sell stock and $10,000.00 in preferred stock at six per cent interest was sold. The net earnings of the journal for the three years were $5,500.00. The Association paid to the stockholders, including myself, $5,500.00, I think it was, a year fro ten years, without interest. I resigned as secretary and editor in 1921, and was elected president. I served as editor and secretary for twelve years without salary."

THE CINCINNATI MEETING

The thirty-seventh meeting of the Southern Medical Association, which is to be held in Cincinnati, November 16-18, is a Kentucky meeting. It convenes upon the invitation of the Campbell-Kenton County Medical Society of Kentucky. Newport and Covington, the principal cities of this two-county society, are just across the river from Cincinnati.

The program plan for this war-time meeting will be different from that of previous years. It has been streamlined to meet present conditions. The twenty-one sections of the Association will not meet independently, but each section will furnish a certain number of papers for the general sessions. There will be two general sessions each day, one representing the various surgical specialties, and the other the medical specialties. The essayists on Wednesday and Thursday will be about equally divided between physicians in the armed forces and in civilian practice. There will be time for questions and answers following each paper. Tuesday will be Kentucky and Ohio Day, and the program will be filled by physicians from both sides of the river.

On Tuesday evening, in a general public session, the address of the president, Dr. Harvey F. Garrison, Jackson, Mississippi, will be heard. There will also be addresses by Dr. James E. Paullin, Atlanta, Georgia, president of the American Medical Association, and Dr. Norman T. Kirk, Surgeon General, Medical Corps, U. S. Army, Washington.

There will be no formal entertainment this year, no president's reception and ball, no golf or trap shooting tournaments. There will probably be a general alumni dinner on Wednesday evening and fraternity luncheons on Thursday.

The Netherland Plaza Hotel will be general headquarters. Here will be the registration, general sessions, and scientific, hobby and technical exhibits: all official activities of the Southern Medical Association. The Gibson Hotel is headquarters and meeting place for organizations meeting conjointly. The Sinton Hotel is headquarters and meeting place for the Woman's Auxiliary to the Southern Medical Association. These three hotels are just one block from each other.

Medical meetings of the type planned are as essential in wartime as in peace. Physicians, military and civilian, need medical meetings, since medicine is not like a factory where output may be frozen, or old models kept on the roads. Nothing but the best and most modern in medicine may be practiced by members of the Southern Medical Association, during peace times or war.

Dr. Garrison, the president, is extending an invitation to the officers, members of the council, councilors-elect, and past-presidents, to be his guests at breakfast at the Netherland Plaza Hotel on Wednesday morning, November 17, at 8:00 A.M. Among the distinguished guests are also included Dr. Norman T. Kirk, Surgeon General U. S. Army and Dr. Thomas Parran, Surgeon General U. S. Public Health Service. It is the host's purpose to call on each one of them for a few remarks at the breakfast, but there will be no set speeches. This distinguished group will number between sixty and sixty-five.

On account of the crowded conditions the annual meeting of presidents, secretaries, and editors will be omitted this year.

This issue of the journal we call the Harvey Garrison issue. But for labor shortage in our print shop, we would have had a much larger journal and a number more papers and an additional amount of interesting data. Dr. Garrison is the fourth president from Mississippi of the Southern Medical. Fully deserving the honor, he is a man of medical vision and practical application.

The Mississippi Doctor

Published monthly at Booneville, Mississippi

Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription $1.00.

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

W. H. ANDERSON, M.D. ....Editor-in-Chief
MILDRED P. ANDERSON ....Assistant Editor

EDITORS:

Lawrence W. Long, M.D.
J. G. Archer, M.D. Stanley A. Hill, M.D.

Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

DR. HARVEY FRANKLIN GARRISON

The whole world is a flaming battle-ground with each nation fighting or preparing to fight at the present time. Grave responsibilities have been placed on organized medicine. Physicians, dentists and veterinarians have been relegated the authority to maintain civilian health and care and supply necessary practitioners to the armed forces. Dr. Harvey F. Garrison, president of the Southern Medical Association, has accepted fully his responsibility in the part that organized medicine is playing in the war.

Dr. Harvey Franklin Garrison of Jackson, Mississippi, was born in 1879 in Maysville, Georgia. His father was John E. Garrison and his mother Narcissis Scott, both natives of Georgia. His father owned and operated lumber mills.

Dr. Garrison was educated in the schools of Mississippi and at the University of Tennessee. He received his M.D. from the University of Tennessee College of Medicine. After his graduation he entered upon a general practice in south Mississippi as the partner of a well-known physician, Dr. J. J. Bethea of Hattiesburg. He joined the Southern Medical Association in 1911.

Dr. Garrison married Miss Elizabeth Bethea of New Hebron, Mississippi, a member of a family of physicians. Mrs. Garrison is the niece, sister, wife and mother of members of the medical profession. She has constantly aided Dr. Garrison in his undertakings, and for the past twenty years has accompanied him to practically all medical meetings and especially to the Southern Medical Association, and she is active in medical auxiliary work. They have two sons, Dr. Harvey F. Garrison, Jr., who is associated with his father in the practice of pediatrics in Jackson, Mississippi, now in the Air Corps of the United States Army as a captain, and Wickliffe Tucker Garrison, an adopted son, who is with the Lockheed Aircraft Industry, in Los Angeles, California.

Since he has been in practice Dr. Garrison has continuously reinforced his medical knowledge. He did postgraduate work at the New York Polyclinic and at the New York Postgraduate Medical School. He was a student of the lamented L. Emmett Holt, the greatest pediatrician of his time.

During World War I, Dr. Garrison was rejected for active military service on account of a physical disability, but volunteered for any service. While on the Mexican border, recovering from illness due to overwork, he was asked by the Surgeon-General of the Army to assume the responsibility of physician to a student-army training corps at Mississippi College, Clinton, Mississippi, where he reported for immediate duty and served for the duration of the war. After his discharge from the student-army training corps, the college trustees elected him college physician. He resigned this post to resume his specialty of pediatrics. He then went to Columbia University, New York, for a postgraduate degree.

In 1922, he moved to Jackson, Mississippi, where he built a large practice and has become a leader in the specialty of pediatrics. He has made valuable contributions to pediatric thought. He is staff pediatrician for the Mississippi Baptist Hospital, the State Charity Hospital, the State Tuberculosis Sanatorium, the State Hospital for the Insane, and the Wally Hospital.

Organized medicine has always interested him; he has served in every position of honor in his local and state medical associations. In his state medical association he was chairman of the Council for ten years; and he has been a member of the State Board of Health and State Board of Medical Examiners for eight years; was president of the State Medical Association and president of the State Pediatric Society; and a member of the Council of the Southern Medical Association for the constitutional limit of five years. He is a member and state chairman of the American Academy of Pediatrics for Mississippi; a licentiate of the American Board of Pediatrics, and in 1940 was chairman of the Section on Pediatrics of the Southern Medical Association. He has served as a delegate to the American Medical Association for many years.

He is serving as a member of the Procurement and Assignment Committee for Hinds County, Mississippi, in which the city of Jackson is located, maintaining civilian physicians and necessary physicians and clearing for the Armed Forces those men that can be spared.

In 1915 Dr. Garrison introduced a resolution in the House of Delegates of his State Medical Association requesting the State Legislature to build and equip a sanatorium for the treatment of tuberculosis. Later he served as secretary of the special committee of the State Board of Health that directed the building and that governed the institution for eight years.

Dr. Garrison is a member and deacon of the First Baptist Church of Jackson. He is a Thirty-Second Degree Mason, a member of the Shrine, and a member of the Kiwanis Club.

He has many calls upon his time by his connections with organized medicine, by his church, lodges and civic organizations. These have not interfered with his duties as a skilled clinician or prevented his maintaining a familiarity with the ever-increasing pediatric literature.

Doctors as never before are required to carry a big burden. They must keep informed and attendance at meetings, such as that of the Southern Medical Association, is very necessary. You might see your local ration board and find out if it is not possible to secure gasoline for group riding to and from the annual meeting. Dr. Garrison is anxious to help the war effort and prepare our medical friends to serve better.

L. W. L.

FOUR MISSISSIPPI MEN HEAD SOUTHERN

Dr. Harvey Garrison of Jackson is the fourth able man from Mississippi who has been honored with the presidency of the Southern Medical Association. All four served as president of the Mississippi State Medical Association.

Dr. Walter W. Crawford of Hattiesburg was the fourth president. He was elected in New Orleans in 1909 and presided at the Nashville meeting in 1910. For many years he has been the oldest living president and the only member who has 100 per cent attendance record. He is a Fellow in the American College of Surgeons, the American Medical Association and the Southern Medical, was a lieutenant colonel in the Army Medical Corps and Chief Surgeon of Base Hospital 79 in France in World War I. He has the following to say about the Southern: "The Association has numbered among its presidents a long list of representative men in American medicine, and its journal has been expressive of the work and progress of Southern medicine at its best."

Dr. W. S. Leathers, now dean of the Medical School of Vanderbilt and president of the American Association of Medical Colleges, served at the 1923 meeting in Washington,, D. C., where he introduced President Coolidge to the assembly. That year also a special Southern Medical Association train was run to San Francisco to attend the American Medical Association. Among the notables on this trip were Dr. and Mrs. John Culley of Oxford, Dr. Jere Crook of Jackson, Tenn., Dr. Pusey of Chicago. We always think of W. S. Leathers in connection with Mississippi's two-year medical school and our fine public health program, with which he was ably identified for many years.

Dr. Felix J. Underwood of Jackson, who succeeded Dr. Leathers as executive secretary of the Mississippi State Board of Health, presided over the meeting held in New Orleans in 1931. His other honors and achievements are too numerous to mention. He is now president of the American Public Health Association. He has served as delegate to the American Medical Association for many years. It is quite certain that he is the ablest and most outstanding public health man in this nation today.

Dr. Harvey Garrison, who will preside at the Cincinnati meeting, has been an outstanding leader in Southern medicine for many years. As an able pediatrician he has brought this specialty to the front in his state. Seven years ago he organized a meeting of presidents, secretaries, and editors of the Southern states, which group has functioned as a forum on medical problems. As a delegate to the A.M.A. his influence has been felt strongly, as a man of unusual medical vision and practical application.

THE MISSISSIPPI PROCUREMENT AND ASSIGNMENT SERVICE FOR PHYSICIANS

Dr. J. P. Wall, Jackson, Mississippi, has recently been made the State Medicceal Procurement and Assignment Officer, succeeding Dr. T. M. Dye, Clarksdale, Mississippi. He is a man of convictions and will do the job. Three doctors in each county have been appointed as a Procurement and Assignment Committee by the Councilors of the State Medical Association. They are known to the public. The job of maintaining civilian health by retaining sufficient physicians and supplying those that can be spared for the armed forces is not an easy one. This is the job of the Procurement and Assignment Committees in coöperation with Local Selective Service boards. Some officials and prominent doctors are being plied by young doctors, who should be in the service, for letters stating that they are most essential where they are. This is a matter that should not be taken lightly.

Doctors will have to be supplied from where they are available and can be released from civilian practice, and not by quotas and percentages. Many eligible physicians are worrying about what another state or county is doing.

The Surgeon-General and Selective Service have agreed to waive the age limit of thirty-eight and select doctors up to forty-five years of age. Dependency is no longer a cause for deferment, unless destitution and extreme privation would result upon induction. The physical standards by which medical officers are acceptable have been lowered. All available physicians who have been previously rejected are to be re-examined by the new standards if still available.

Physicians must be supplied to the armed forces. Physicians must be supplied to the civilian population. The medical profession has always met the demands made upon it.

L. W. L.

Every doctor in our state medical association, and the medical profession of the South was saddened by the news of the death of Dr. Peter W. Rowland who served long and well. He built for himself a fine monument out of deeds of medical service and citizenship. He was especially endowed with that spark of genius that impels a man forward over a long period of time regardless of difficulties and even in the face of reverses. Scholarly in intellect, courtly in manner, determined and optimistic in attitude, his sustained leadership brought honor to him and played an important role in the march of medicine.

When Dr. P. W. Rowland died organized medicine, and particularly the Mississippi State Medical Association, suffered a distinct loss. For half a century he had been a constant attendant and a consistent worker in its meetings. Dr. Rowland was a unique character. He was reserved and retiring in his manner yet he was frank and positive in expression of his opinions. He was tall of stature with classic features and aristocratic bearing. A deep thinker and a good judge of character, he had a correct sense of true values, never courting people indiscriminately but appreciating his friends and being himself a true and dependable friend. He had long been my good friend and with the passing years this bond of friendship continued to grow stronger. Just one month from the day on which he died he attended a meeting of Northeast Mississippi Medical Society in Amory, and despite the distracting environment, he and I enjoyed a love-feast and expressed one to the other our love and appreciation. A few hours after his death Dr. Guyton sent a message acquainting me of his passing. While I was not greatly surprised I was deeply pained and severely shocked. One by one and all too frequently, it seems, we are forced to wish bon voyage to those whom we have known and loved. Because of sickness in my home I was not permitted to attend the funeral and thus pay tribute and respect to an able and honorable member of our craft. It has been said that “the evil men do lives after them; the good is oft interred with their bones.” If this be true Dr. Rowland will soon be forgotten but the world will be richer and better because of his having lived in it.

G. S. B.

News and Comments

Dr. J. P. Culpepper, Jr., Hattiesburg, has been appointed a member of the Council of the Southern Medical Association from Mississippi for a regular Council term of five years, beginning in mid-November, the appointment having been announced recently by the president-elect, Dr. W. T. Wootten, Hot Springs National Park, Arkansas. Dr. Culpepper succeeds Dr. William H. Anderson, Booneville, whose term will expire at the close of the Cincinnati meeting in November and who, having served the constitutional limit, is not eligible for reappointment.

Dr. Culpepper is worthy and well-qualified for this honor. A most able general surgeon in private practice, he has served well in organized medicine for many years. He is now a member of the State Board of Health. That he is a lover of the Southern Medical is shown by his high attendance record.

We are delighted that the Southern Medical had the vision and the courage to hold its regular annual meeting even if it did have to go out of its territory for a meeting place. It is doing its part to keep medical service in liquid form and flowing for the good of humanity. It is not time to ration or to freeze medicine. We feel sure the attendance will be good.

DR. ABELL SUCCEEDS DR. McCORMACK

Dr. Irvin Abell, Louisville, has been appointed a member of the Board of Trustees of the Southern Medical Association to fill the unexpired term of Dr. Arthur T. McCormack, Louisville, deceased, the appointment having been recently announced by the president, Dr. Harvey F. Garrison, Jackson, Mississippi. The trustees are past presidents. The president when retiring from that office is elected to the Board of Trustees where he serves for six years. Dr. Abell was president of the Southern Medical Association from 1932-1933 and a member of its Board of Trustees from 1933-1939.

Everyone who knows Dr. Abell will commend President Garrison for this appointment.

The late Arthur T. McCormack of Louisville, Ky., a past-president of the Southern Medical Association, one of the nations outstanding men in public health, was a man with a professional mind, a medical soul, and a missionary heart, fired with health vision and practical application. He was a leader of men, a friend tried and true, a medical statesman with insight and keen perception. He will be greatly missed at the coming meeting of the Southern Medical Association, the soul and the heart and the good fellowship of which he typified so well. We are so glad he passsed our way before he passed on. His spirit will live and flow in Southern medicine down the years.

Ludolf N. Bollmeier, M. D., research associate, Chicago Institute for Psychoanalysis, announces the reopening of his office on October 5, 1943, Hot Springs National Park, Arkansas, 331 Thompson Building.

ALCORN COUNTY MEDICAL CLUB

The Alcorn County Medical Society, which functions more like a club, is now approaching the end of a fiscal year. New officers are to be elected at the next meeting, October 15, when Dr. C. F. Gilbert will be in charge of the scientific program.

Dr. W. A. Johns and Dr. W. D. May, retiring president and secretary, are completing a most creditable administration. The club has furnished five members to the armed services, but this depletion in ranks has not kept it from continuing its worthwhile programs.

On August 20 Dr. Felix J. Underwood, state health officer, lectured the group on the Wagner Act. The Act proposes to spend $3 048,000.000 annually to provide medical care to 110 million of the population. This sum is approximately enough to run the government in peacetime and would be raised by a 6% tax on salaries. This law would put the control under the U. S. Public Health Service which has not been consulted. Dr. Underwood, who is president-elect of the National Public Health Association, stated that this organization likewise was not consulted when the bill was written. After the formal presentation a round table discussion was entered into. Each member left the meeting with the firm determination to take fitting and appropriate action.

The society was honored with the presence of Dr. W. H. Anderson, editor of the *Mississippi Doctor*, Booneville; Dr. G. S. Bryan, Amory; Dr. L. L. McDougal, Sr., Booneville, and Dr. O. H. Williams, Savannah, Tennessee. The guest speaker was presented by Dr. J. R. Hill who was in charge of the program. Each of the other guests made inspiring contributions on fellowship and organized medicine.

Keeping a newspaper and a medical journal going these times is a big job. We are very grateful to our readers, advertisers and every friend for confidence and good will. We hope to be out on time and with more space soon. We want to ask our doctors and the members of the Auxiliary especially to help us get more news from the doctors in the service.

MISSISSIPPI PAST-PRESIDENTS OF SOUTHERN MEDICAL ASSOCIATION

Dr. W. W. Crawford
Hattiesburg, Miss.

Dr. W. S. Leathers
Nashville, Tenn.

Dr. Felix J. Underwood
Jackson, Miss.

WARTIME NURSING IS DIFFERENT

A critical shortage of nurses exists. Here are the facts:

National Nursing Inventories

	1941	1943
Total returns	289,286	259,174
Active		
Institutional	81,708	77,704
Public Health	17,766	18,900
Industrial	5,512	11,220
Private duty	46,793	44,299
Other	21,276	18,476
Inactive but available for nursing	25,252	38,743 (of these 23,576 are married and under 40).
Inactive, not available	90,979	49,829
In Nurse Corps of Army and Navy	6,371	over 36,000 (precise data not available)

OUR DOCTORS IN THE SERVICE

Lieut. James C. Green, M.C.

Lieut. Green reports a tremendous volume of work and accomplishment at the surgical center composed of six large hospitals in North Africa, where he has been stationed on the number one surgical unit with the 78th Station

Hospital since last spring. Lieut. Green was graduated from Tulane in 1934, interned at the City Hospital in Cleveland, Ohio, was for a time a member of the staff of Gamble Brothers Clinic, Greenville, Miss., served a surgical fellowship at the Postgraduate Hospital in New York, and located in Tupelo, Miss., with his father, Dr. J. H. Green.

* * *

Captain R. A. Street, Jr., is one of the interesting branches of the service. After completing his course in aviation medicine at Randolph Field, Texas, he has been taking trips with the cadets and learning first-hand the effects of altitude pressures, tension and the other factors involved in this important phase of modern warfare. Capt. Street left the Vicksburg Sanitarium to enter the service early in 1943. But he is looking forward to the time when he can take up his work again, especially in helping to make the Vicksburg Sanitarium meet requirements for offering internships to graduate doctors. "For the past two years it has been the intention of the Vicksburg Sanitarium to meet the requirements. We were all set to become approved for internes in 1941, but did not have quite the necessary number of patients per day required to do so. The war has since interfered with putting this program through, but I am sure that we will be among the approved interne hospitals in the near future," he writes.

* * *

Capt. Earl L. Laird is another who has been in the Army Medical Corps nearly two years. He is stationed at Camp Gordon, Ga., having left a modern, thirty-bed hospital at Union, Miss., which he wishes to sell.

* * *

The late Dr. John B. Howell and Mrs. Howell of Canton saw their son and two sons-in-law enter the Army Medical Corps, and all three have risen steadily in rank. Major John B. Howell, Jr., in the north Atlantic war theater, is in charge of the station hospital in New Foundland. Capt. Frank Yates, who married Catherine Howell is stationed at Jackson Air Base, Jackson, Miss. And Capt. James Newton, who married Blanche Howell, is attending surgeon at Camp Wheeler, Macon, Ga. Bringing much brightness to the life of their grandmother since Dr. Howell passed away, are the three grandchildrn, John B. Howell, III, about seventeen months old, Catherine Howell Yates, seven months old, and Blanche Howell Newton, also seven months old.

* * *

Maj. Felix J. Harrell, formerly of Biloxi, Miss., is working in a hospital out in New Guinea, after spending four months doing special surgical work in a general hospital in Australia. He has been overseas about ten months.

* * *

Maj. Frank M. Acree has recently been transferred from Craig Field, Ala., to the medical and psychological examination unit, at the station hospital, Greensboro, N.C. Dr. Acree, who formerly enjoyed an excellent practice in Greenville, Miss., writes that at his unit they process around 250 aviation cadets each day.

* * *

Major Julius L. Levy, who left his practice in Clarksdale, Miss., to enter the service, writes from England:

"I have just received the August issue of the *Mississippi Doctor* and I enjoyed reading the Journal very much, especially Dr. Underwood's discussion of the Wagner Bill.

"I am station surgeon and I enjoy my work very much. I have met numerous doctor friends at several meetings that I had not seen for months.

"The hospital is equipped with all types of the latest improvements needed in the care of soldiers, medically and surgically. We have the finest doctors in the world in the service to treat the soldiers.

"Trusting that everybody back in Mississippi is getting along well, I am looking forward to seeing you at the Mississippi State Medical Meeting next year."

FOR SALE—Superficial and Deep X-Ray therapy machines, surgical diathermy. Mrs. W. R. K. Beck, Arcadia Hotel, Selma, Alabama.

FOR SALE—X-Ray Machine and Suite of Office Furniture. Mrs. M. L. Montgomery, Louisville, Mississippi.

FOR SALE—Modern 30-bed hospital at Union, Miss., building and equipment thoroughly up-to-date. Represents $60,000 investment, but will sell at bargain. Still open but no surgeon in town. Capt. Earl L. Laird, M. C., U. S. Army, Camp Gordon, Ga.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Vicksburg.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments.

PEDIATRICS

"THE CHEMOTHERAPY OF INFANTILE DIARRHEA: A COMPARISON OF SULFADIAZINE AND SULFAPYRAZINE"—Richard B. Tudor—Journal of Pediatrics, 22:652 (June) 1943.

The author says that the treatment of infantile diarrhea in the pediatric department of the Duge Hospital has become somewhat standardized since the advent of the sulfonamides. The same general plan of treatment has been used for the last few years. The only change from one year to another has been the attempt to find the most efficacious sulfonamide.

Alternate diarrheal patients in 1942 were given sulfadiazine and sulfapyrazine. Fifteen of these patients were treated with sulfadiazine and 22 with sulfapyrazine from the day of admission till all symptoms and signs of infection had ceased. The dosage was the same for both drugs; i. e., 0.1 gm. per kg. of body weight per 24 hours, each patient receiving one half of his initial 24-hour dose immediately and then the rest of the dose every four hours.

The blood and urine of the patients receiving sulfapyrazine were examined daily, and those of the sulfadiazine group, every other day. The average blood level of sulfapyrazine was from 1 to 3 mg. per cent. Microscopic hematuria was observed in three patients receiving sulfadiazine but in none in the sulfapyrazine group. No drug rash or other toxic signs were observed in either group.

"Clinically, 14 of the 37 infants had bacillary dysentery and 23 had parenteral diarrhea; i.e., they had infection elsewhere, usually of the upper respiratory tract. Three of the infants with clinical bacillary dysentery had Flexner Y bacilli in their stools, and one had Flexner V bacilli. In none of the other patients' stools were any pathogenic bacteria found, although they were cultured daily for three days after admission.

It is said that six of the clinical bacillary dysentery group were given sulfadiazine and eight received sulfapyrazine. Of the parenteral diarrhea series, 9 were treated with sulfadiazine and 14 with sulfapyrazine. Both the drugs were equally effective in both the dysentery and parenteral diarrhea cases. In no instance was it necessary to change from one sulfonamide to the other.

"Analyzing the cases according to degree of dehydration revealed that both sulfonamides were equally effective."

COMMENT

This is quite an interesting article on the treatment of diarrhea in the infant ever since the advent of the drug. The sulfathiazole and sulfaguanidine are equally effective with a possibility of sulfaguanidine being a little more valuable in the treatment of this condition.

H. F. G.

DERMATOLOGY

KERATODERMA CLIMACTERIUM — Archives of Dermatology and Syphilology. Vol. 48, No. 3, p. 270.

This condition which can be readily confused on casual examination with psoriasis, fungus infections, syphilids and several other less frequently observed keratoses, was first brought to the attention of the dermatologists in 1891 by H. C. Brooke and again in 1934 by Haxthausen. Becker and Obermayer presented a case in 1937. Sutton and Sutton's *Textbook*, tenth edition, 1939, which is almost encyclopedic in scope, gives it a brief paragraph. Becker and Obermayer's *Modern Dermatology*, 1941, devotes considerable space to the condition and as far as I know is the first textbook to consider the condition with the amount of emphasis that it is due. Ormbly and Montgomery's *Diseases of the Skin*, 1943, sixth edition, merely mentions the condition in a very short statement saying that it is found mainly in obese individuals with hypertension at the time of the climacteric. My reason for reviewing the literature on this condition and calling your attention to it is because it is quite possible that some of you have been doing exactly what I have been doing for quite some time, that is, assuming that the hyperkeratosis was due in part or mainly to a fungus infection or to some other local disturbance and did not recognize the condition as one having to do with an endocrine deficiency.

Dr. Francis W. Lynch, Clinical Associate Professor, University of Minnesota, discusses keratoderma climacterium (Haxthausen) (Hypoestrogenic Kerotodermatitis) in quite a long article in the September issue of the *Archives of Dermatology and Syphilology*. The main points of consideration are the presence of circumscribed hyperkeratosis of the soles, or the palms and soles, occurring in women in association with the climacteric and accompanied by various general signs and symptoms of which obesity and hypertension are those most frequently encountered. Other authors (Becker and Obermayer) discuss it as a special form of neuro-dermatitis which differs from ordinary neuro-dermatitis "by the presence of rather extensive hypertrophic lesions on the ends of the toes." Itching is frequently a very striking symptom. Ten cases of this condition are presented by the author and he feels that the plantar lesions are more common than the palm lesions, and the itching and the burning are present long before eczematization is present.

The histopathological studies of five specimens showed swelling of the collogenous fibres and degeneration of the elastic tissue.

In most cases favorable results followed the administration of diethylsybesteol for as short a period as one to two weeks. For cure the medication should be continued for several months.

A relatively large amount of space was devoted to an attempt to differentiate this condition from neuro-dermatitis, which is more or less of academic interest or at least concerns the dermatological nomenclature, and to separate this condition into an entity.

In commenting further on the above article it seems likely that patients with neurodermatitis would be more likely to develop hyperkeratosis of the palms and soles than individuals who do not have it, and if the conditions should occur together, that does not mean that the plantar keratosis should not respond to therapy even if the neurodermatitis does not.

J. G. T.

State Board of Health

Felix J. Underwood, M.D.

VITAL STATISTICS

The death rate in Mississippi for 1942 was 9.3 per 1000 population—the lowest ever recorded for the state. The white death rate was only 7.7, while the colored rate was 10.8. At the same time, births increased, 56,600 being recorded for the year. This was the highest number recorded for any one year since the Division of Vital Statistics was established, in 1912, according to Dr. R. N. Whitfield, director. Marriages, too, reached an all-time high with a total of 49,528. This figure represents more than 100 per cent increase over any of the depression years. Divorces numbered 4,326—one divorce for every eleven marriages. The proportion of divorces to marriages is very favorable in Mississippi compared to the national average which is about one divorce to every five marriages.

The infant mortality rate during 1942 was the lowest for many years—46.8 per 1,000 live births. It was indeed a record year for many improvements and these statistics reflect gratifying progress of the work done by physicians and health workers throughout the state. The maternal death rate of 4.2 was the lowest ever recorded for Mississippi, the white maternal rate being only 3.7, the colored 6.2.

Only 22 deaths from typhoid fever occurred in 1942; a remarkable reduction from the 338 deaths recorded in 1916. Tuberculosis deaths numbered 1,092 in 1942 compared to 2,625 in 1916. Diphtheria claimed 44 deaths during the year: cancer, 1.537; heart disease, 3.139. Deaths from motor vehicle accidents were reduced from 609 in 1941 to 421 in 1942.

The Division of Vital Statistics experienced the busiest biennial period in its history ending June 30, 1943. The deluge of requests for birth certificates to prove American citizenship as a prerequisite to obtaining employment in war industries and to prove claims for certain benefits added a tremendous burden to the department's regular schedule and forced most all of the employees to work long and arduously to comply with the demands for this essential document. Anywhere from 500 to 2500 requests poured in daily through the mails, compared with an average of from 25 to 50 during peacetime. In addition, there were long lines standing daily making direct application.

During the biennial period, 40,000 individuals born before the department was established in 1912 have furnished sufficient evidence to enable them to have their births recorded. In addition, 15,500 others born after November 1, 1912 were permitted to file their records of birth because they were not registered at birth according to law. A birth index book for each county in the state was completed and a copy filed with the local health department. The index covers all white birth records filed from November 1, 1942 through 1939.

There are now on file in the Division of Vital Statistics approximately 1,300,000 marriage records; 1,600,000 birth certificates: 690,000 death certificates; and 50,000 records of divorce; a grand total of approximately 3600,000 vital records of the people in Mississippi. Practically every certificate in indexed so that it may be located within a minimum of time.

* * * * *

Fellowships Available to Mississippi Physicians

A limited number of fellowships for postgraduate work in Pediatrics and in Obstetrics and Gynecology at Tulane University School of Medicine is being offered to physicians in the state who are devoting any considerable time to the practice of these specialties. Physicians interested in taking one or both of the courses offered should communicate with Dr. Felix J. Underwood, executive officer, Mississippi State Board of Health. The course in pediatrics will be given October 25-28 and the one in obstetrics and gynecology, December 13-17, 1943. The fellowships will cover tuition, transportation to and from New Orleans, and reimbursement on a per diem basis of $6.00 for the six days' course in obstetrics or the five days' course in pediatrics. Those who attended one of these courses last year will not be considered for the same course they have taken but may make application for another course.

The course in obstetrics and gynecology will embrace illustrated lectures, moving pictures and round table discussions. The subjects covered will incude prenatal care, toxemias of pregnancy, obstetrical analgesia, interference in obstetrics, resuscitation of the newborn and causes of asphyxia, radiology—its practical application to obstetrics, tuberculosis in pregnancy, cardiac disorders, renal disease, syphilis, psychoses in pregnancy and the puerperium, abortion, obstetrical emergencies, diseases of the vulva, vaginitis, chronic cervicitis, leiomyoma uteri, gynecology displacements, anatomy of the female pelvis and perineum, early recognition of genital cancer, ovarian tumors, acute and chronic pelvic inflammatory disease, urology, the use of sulfa drugs in gynecology, thrombophlebitis, gynecological emergencies, use of estrogens in gynecology, sterility, ectopic pregnancy, dysmenorrhea, and the menopausal patient.

The pediatrics course, designed largely for the general practitioner, will also be enjoyed by the specialist desiring a comprehensive review of the subject. In addition to the formal lectures, there will be a clinico-pathological conference, an x-ray conference, ward rounds, demonstrations, and round table discussions at luncheons. Subjects covered will include: Feeding of Infants and Children; Heart Disease; Ocular Anomalies; Erythroblastosis Foetalis; Pertussis Therapy; Neonatal Asphyxia; Immunization, Diagnostic Roentgenology; Emergency Management of Household Accidents; Problems in Caring for Handicapped Children; and Dental Problems in Pediatrics.

These fellowships provide his physician with an excellent opportunity for advancing his knowledge in the fields covered and it is hoped that the current pressure of work will not prevent his taking advantage of it.

* * * *

CHILD GUIDANCE CENTER ESTABLISHED

Mississippi is at last to have a child guidance center to deal with the common emotional disturbances of children up to 17 years of age. The program will be under the direction of Dr. Estelle A. Magiera, formerly psychiatrist at the Mississippi State Hospital, and at Hartford Retreat in Hartford, Connecticut. The Mississippi Child Guidance Center will be modeled after the famed Judge Baker Guidance Center in Boston, where Dr. Magiera did supervised clinic service during the past year. The Judge Baker Center is the parent organization of some 600 guidance clinics in this country and abroad and has behind it 25 years of practice and research in serving childhood and youth. There are only nine child guidance programs in the South; Mississippi's will be the tenth.

Children with personality deviations may be referred directly to the center by physicians or county health officers. Parents, school principals, social welfare workers, juvenile court authorities, ministers, and others interested in child health and welfare are urged to make use of the child guidance centers. *Their referrals can be made through the family physician or the health officer.*

Although the centers are designed for the rehabilitation of emotionally disturbed but otherwise normal children, Dr. Magiera points out that they will render diagnostic studies to chidren with other disturbances of a psychogenic origin. Among disturbances to be dealt with are such disorders as thumb sucking, bed wetting, eating problems, behavior problems, juvenile delinquencies. Services of the psychiatrist and psychologist will be available for short diagnostic studies, as well as for complete phychotherapy for the child with a severe neurosis.

Assisting Dr. Magiera as psychologist is Miss Louise Wood, who comes to the State Board of Health from the Judge Baker Guidance Center in Boston, where she had been chief psychologist since 1925. A graduate of Smith College, she holds a master's degree from Columbia University. She is a fellow in the American Orthopsychiatric Association and a member of the American Association for Applied Psychology and of the Massachusetts Society for Clinical Psychologists. Author and co-author of many psychological studies, Miss Wood designed the Wood Picture Completion Test, widely used as a measure of intelligence.

MISCELLANEOUS NEWS NOTES

"Planning Today for Public Health Administration Tomorrow" was the topic Dr. Underwood selected for his presidential address before the Wartime Conference of the American Public Health Association, held in New York City, October 11-14. In this address, Dr. Underwood pointed out that many diseases which seem remote to us in this country because of the excellent results of public health measures applied over the years still present problems in other areas of the world not so fortunate to have this protection. The possibility of many of these diseases being transmitted to America becomes apparent as air travel lessens the distances involved and more and more people circulate. Health security assumes a global significance, and it is easy to see that the winning and keeping of the peace is dependent upon a strong, physically fit world population capable of rebuilding civilization

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Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

EXECUTIVE BOARD MEETING

The Executive Board of the Woman's Auxiliary to the Mississippi State Medical Association met October seventh at two o'clock in the home of the president, Mrs. H. C. Ricks, in Jackson.

The following members were present: Mrs. H. C. Ricks, Mrs. P. R. Greaves, Mrs. George

Owen, Mrs. George E. Riley, of Jackson; Mrs. W. C. Pool of Cary; Mrs. J. B. Howell of Canton; Mrs. Augustus Street, Mrs. Lawrence Clark, and Mrs. Hugh Johnston of Vicksburg; Mrs. R. F. Ratliff of Lucedale, and Mrs. R. C. Eley of Moss Point.

Reports were made by the committee chairmen and councilors.

War participation was the theme of the meeting. Mrs. Hugh Johnston of Vicksburg is War Participation Chairman.

Since one of our projects this year is to assist in the recruitment of nurses, it was suggested that someone might talk to high school seniors about taking nurses' training.

It was also suggested that the auxiliaries take up war work and go as a unit to make surgical dressings.

Names and addresses of auxiliary members who have moved from their homes to be near their husbands who are in service should be sent to Mrs. Augustus Street, Vicksburg, in order that this information might be available for the *Bulletin*, it was urged.

At the conclusion of the business meeting, Mrs. Ricks served a delectable salad plate to her guests.

NORTHEAST THIRTEEN COUNTIES AUXILIARY

The members of the Northeast Mississippi Thirteen Counties Auxiliary found the September meeting in Amory especially pleasent. The group were welcomed by Mrs. W. N. Reed at her home, with Mrs. Price Burdine, Mrs. M. Q. Ewing, Mrs. R. J. Boozer and Mrs. B. C. Tubb joining her in extending the hospitality. Throughout the house lovely gladioli and roses added to the charm of the setting.

Mrs. E. K. Guinn, presiding, presented Dr. M. Y. Dabney of Birmingham, Ala., and Dr. Jones, a Birmingham gynecologist also, who brought challenging messages to the group. Dr. Dabney talked on "The Doctor's Wife's Place in the War Effort", and Dr. Jones emphasized the doctor's wife's role in decreasing the cancer toll.

During thhe social which followed the business session, Mrs. Joe Goodrich and Mrs. L. Burhorn regaled the members with several musical selections. An informal but delightful tea climaxed the hospitality.

It is ESSENTIAL
THAT YOU FILL
YOUR PLACE
AT THE
SOUTHERN MEDICAL
ASSOCIATION
MEETING

MEDICAL MEETINGS ARE ESSENTIAL, as essential in wartime as in peace, even more so. Physicians, military and civilian, need medical meetings, for it has been well said that "it is important that medicine not be frozen for the duration," and that "we must preserve and disseminate advances in medicine as never before." An essential meeting is the Southern Medical Association, Cincinnati, Ohio, Tuesday, **Wednesday, Thursday, November 16-17-18.** The Cincinnati meeting has been streamlined to meet wartime conditions, essential medicine brought down to date—a great wartime meeting. The Southern Medical Association is meeting in Cincinnati upon the invitation of the Campbell-Kenton County Medical Society of Kentucky. Newport and Covington are the principal cities of this two-county society and are across the river from Cincinnati. **It is a Kentucky meeting.**

REGARDLESS of what any physician may be interested in, of how general or how limited his interest, and whether in military or civilian practice, there will be at Cincinnati a program to challenge that interest and make it worth-while for him to attend.

ALL MEMBERS of State and County medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $4.00 include the Southern Medical Journal, a journal valuable to physicians of the South, one that each should have on his reading table.

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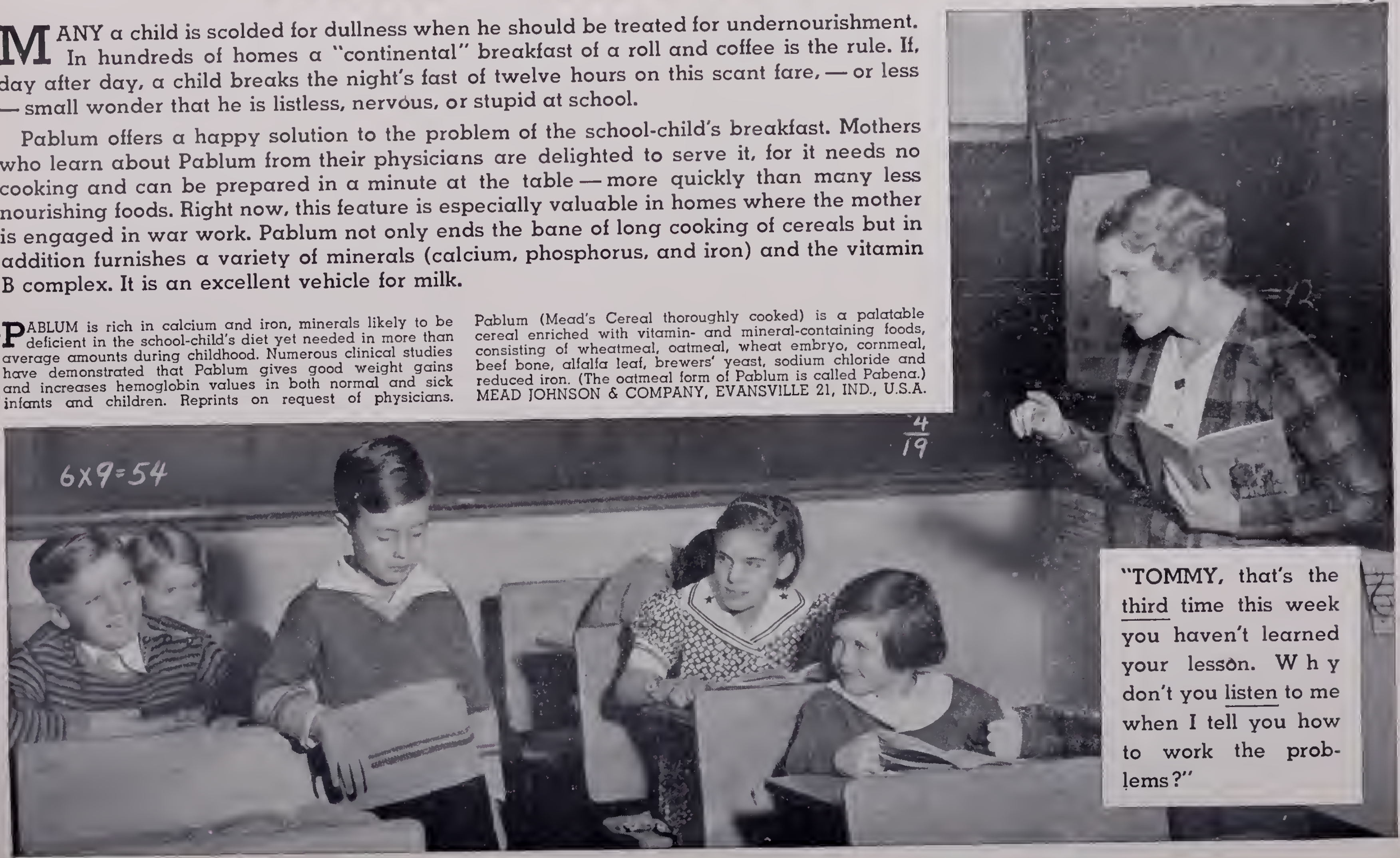

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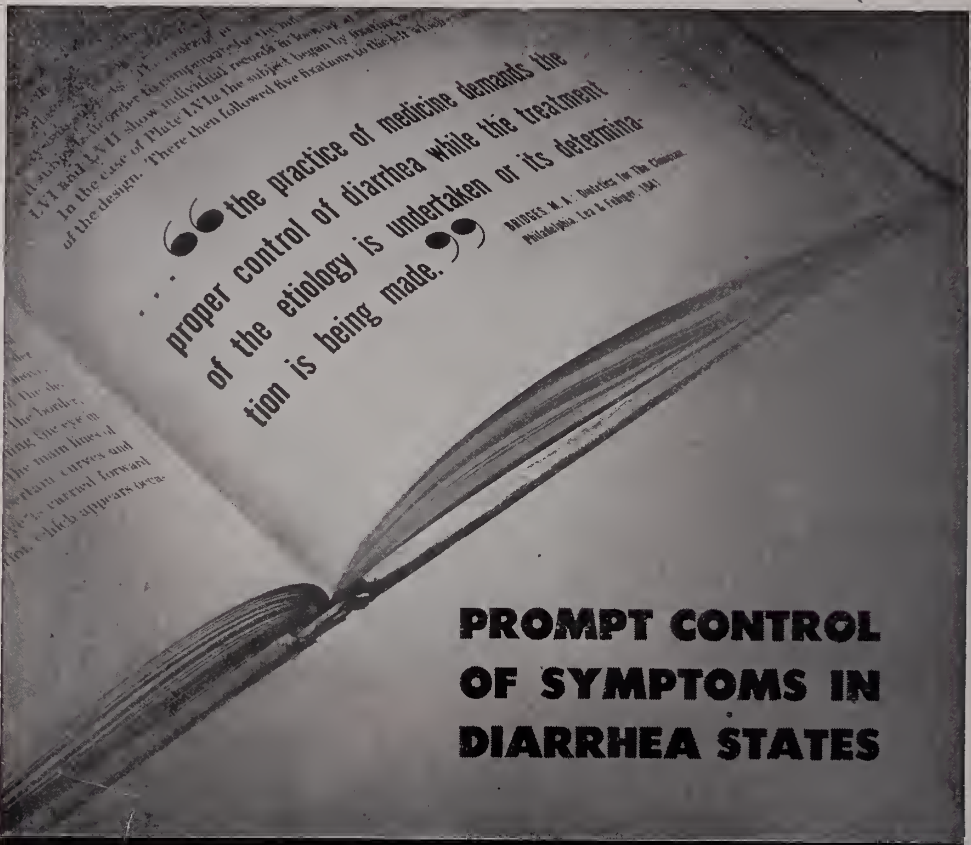

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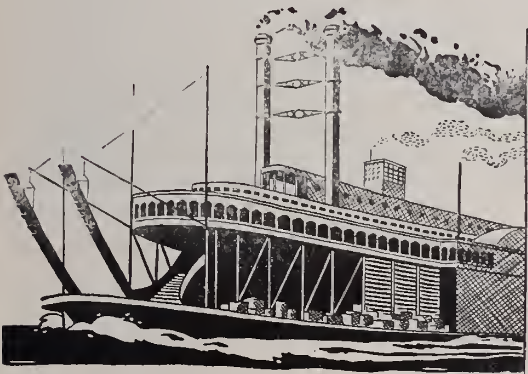

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Fungus Problems of the Ear, Nose and Throat*

JOHN J. SHEA, M.D.
MEMPHIS, TENNESSEE

Mycology is a division of botany and has been neglected by our profession. The appreciation of the role of bacteria and their influence upon the span of man's life is recent. All fungi are not pathogenic, as many are processors of food and drink. One of Pasteur's earliest achievements was his study of fungus. Today, the Department of Commerce is interested in the strain to make cheese but fearful of the spread of strains capable of destroying vegetation. In this country, the men most noted for their study of mycology in the ear, nose and throat are Gill[1], Whalen[2], Searcy and McBurney[3].

The atmosphere is constantly full of fungi, and any organic matter that remains exposed without a preservative, becomes contaminated by the reproduction of the fungi. Our knowledge is limited of the line of separation between the harmless and the pathogenic varieties, Likewise, we do not know why certain individuals are susceptible. An area of skin once contaminated by the growth of fungi will acquire a reinfection. This is demonstrable in the mycosis of the external ear, as well as in lesions of athlete foot.

Fungus infections are more common in the Southland than the remainder of the United States, because they thrive in the presence of heat and moisture. Whenever there is an overflow in the Delta, ideal conditions are developed for the reproduction of fungi. The most logical explanation of the failure to isolate fungi is the habit of our laboratories to report cultural growths at the end of one or two days, for fungi require three or four weeks of incubation to reproduce a diagnostic culture.

Many of the chronic conditions of the ear, nose and throat are the result of fungus growth and in these cases, a more thorough study will isolate the offending factor. The allergic individual is susceptible to fungoid infections and chronicity is the likely outcome. Local therapy is sufficient for the mild cases, but internal medication is required to eradicate the stubborn infections and desensitization is imperative for the allergic. The iodides, thymol and sodium benzoate constitute the armamentarium and may be used locally, separatey or combined, and internally rotated until a cure is accomplished.

MYCOLOGY

The accepted classification of Smith[4] will be followed in this presentation.

I—Yeast-like Fungi
- Saccaromycetes
- Monilia
- Torula
- Endomycetes
- Geotrichum (Oidium)
- Blastomycetes
- Coccidioides immitis
- Sporothrix

II—Mold-like Fungi
- Aspergillus
- Penicillium
- Mucor

III—Higher Bacterial Forms
- Norcardia
  - (a) acid-fast
  - (b) non-acid-fast

The diagnosis by direct smear is hazardous and by culture in Sabouraud's media is tedious, assuming at least three weeks for verification. Testing by skin sensitivity is rapid and practical, but uncertain and not scientific. Symbiosis of fungi and bacteria varies according to the stage of the infection. During an acute otitis media purulent, the bacteria will outgrow the fungus and the profuse discharge washes away the contamination. But during the chronic stage the lack of flow and stagnation invites proliferation of the fungus.

EAR

Otomycosis of the external ear is as common as its prototype athlete foot. It is usually not serious and the earlier cases are cleared up by simply cleansing—thus removing the necessary nutritive media for its reproduction. A converted hand dryer with an attached bakelite ear speculum is a simple means of thoroughly drying the external canal. The pathology is first a desquamation of the superficial epithelium to be followed by small indurated areas like chigger bites, which first itch and later suppurate. Unfortunately, the majority of individuals through scratching contaminate the canals and soon we have a furuncle. The desquamation increases and an ideal medium accumulates for the reproduction of the fungi until the whole canal is filled with the débris.

---

*Read at the seventy-sixth annual session of the Mississippi State Medical Association.

When the drum is involved, it becomes gray, moist and loses its natural sensitivity, and localization of the infection will perforate the drum. Multiple perforations are more common in mycotic infections than the results of tuberculosis. In these advanced infections a thorough cleansing and drying is not sufficient—cresatin or cresatin with thymol 1% applied on wool yarn and allowed to remain in place for twenty-four hours will relieve the itching and soreness. The use of salicylic acid 2% in alcohol is mentioned only to condemn, as it is painful. If the furuncles are present, the same wool yarn may be packed with aluminum acetate 5% solution and lead, (aluminum acetate 5% solution dram 1¼, lead acetate grains 2½, aqua ounce 1, M. & et filter). The yarn is kept continuously saturated and changed every twenty-four hours. For the cleansing of these canals small glass pipettes, tapered to a point, are used with suction to cleanse away the débris and desquamated epithelium.

During the convalescence, dry treatments with powders, preferably silver picrate 1% prevents the reinfection of the canal. In the stubborn cases, especially with the perforations of the drum, a salve of benzo salicylic compound may be heated to its liquate state and instilled into the canal. The technique of applying this ointment requires diligent care that the resolidified ointment is in contact with the drum by the exclusion of all the trapped air bubbles.

MIDDLE EAR AND MASTOID

The author[5] in a recent contribution entitled "Mycosis of the Middle Ear and Mastoid" reported the pathology encountered in four mastoid and two middle ear patients as being fungoid. The presence of fungi in a culture taken from the middle ear or mastoid is not decisive proof that the pathology is the result of a mycotic infection. It may be considered positive when the accompanying clinical manifestations are those of mycosis. Its etiological significance is assessed by (1) the clinical picture suggestive of mycotic infection, (2) the type of fungus isolated, (3) response to fungicidal agents, and (4) special elaborate specific tests, as skin allergic responses and serological reactions. The inaccessibility of direct medication to these infections prevents their eradication and for a cure, it is necessary to combine systemic medication and desensitization by inoculation with strenuous local therapy to exterminate the mycosis.

In the mastoid patients, simple surgical procedure often fails and radical surgery may be necessary to expose hidden areas to direct medication. The swill barrel postoperative radical mastoid cavity may be permanent if the mycosis penetrates into the petrous cells. When the pathology is exposed, the mastoid process will present an unusual picture, as the mastoid cells will be filled with a pigmented fungus growth. The convalescence is not constant or consistent and in areas of long duration, the lining membrane will be polypoid and at times small polyps will protrude through the perforation of the drum. It is a routine on our service to smear the British B.I.P. paste (bismuth subnitrate grams 30, iodoform powder grams 50 and liquid petrolatum qs to make a smooth paste) over the operative surface of the radical cavity to prevent fungus contamination.

NOSE

Many of the recurrent skin infections of the nose are mycotic. These are often considered as impetigo infections because they are relieved by the use of silver nitrate. The routine study of the scrapings of the crust will reveal mycelium organisms and for their complete cure desensitization is advised.

PARANASAL SINUSES

The paranasal sinuses are capable of haboring fungi and the persistent discharge that may follow a thorough ethmoid operation or a radical procedure upon the maxillary, frontal or sphenoid sinuses may be the result of a secondary fungoid infection. This unhappy incident can be limited at the time of operation by smearing the surgical surface with the B.I.P. paste. If after a radical antrum operation, the nasal discharge is foul and the returned irrigation presents small black pigmented masses, the condition is a fungoid infection. Thorough irrigation of the cavity with Dakin's solution will stifle the infection and hasten the convalescence, but if the infection is allowed to remain, the tissues will continuously discharge a thick foul secretion.

Occasionally, one encounters a chronic infection of the sinuses, especially of the antrum, These patients are constantly aware of a foul sickening odor and their breath is a constant reminder to them of their disease. Simple irrigations with chlorinated solutions may eradicate the infection, but usually thorough drainage or radical surgery will be required and in some of the allergic individuals the desensitization is necessary.

MOUTH AND THROAT

The thrush of childhood are fungus infections by monilia albicans and the lumpy jaw of man and cattle are the result of the actinomyces. The black hairy tongue is torula, which though simple, may become fatal when transmitted intracranially. In fact, a patient who has suffered a sudden cerebral involvement and upon examination has the black hairy tongue may be considered as a candidate for a massive intracranial hemorrhage. The warty tough excrescence found harmlessly on the tonsil and pharynx contain streptothrix.

Actinomycosis usually affects the jaw, and has been reported by Dr. John McKenzie Brown[6], as the active infection of two fatal mastoid patients. Recently a patient was admitted for study of a discharging sinus of the neck. The black discoloration of his tongue suggested aspergillus niger. This was confirmed by the studying of the scrapings from the tongue and the pus from the sinus.

ANGINA—The acute anginas are usually the results of infection by streptococci, staphylococci or the organisms of Vincent's, but rarely may be mycotic. In the latter instance, the lesion is a granuloma and must be differentiated from syphilis and tuberculosis.

Case 1—Mr. W. B. McC., aged 46, was referred by Dr. Frank W. Smythe of Memphis, Tennessee, for an unusual lesion of the pillars of the right tonsil. Dr.Smythe had studied the patient for a possible malignancy and the tissue removed was reported by Dr. Nolan E. Leake, laboratory, Baptist Memorial Hospital, Memphis, Tennessee, as being non-malignant. When first seen the granuloma included the tonsils, uvula, the visible walls of the nasopharynx and by direct inspection the base of the tongue, larynx and down into the trachea. Because of a past luetic history, though the Wassermann reaction was negative, the patient was given a thorough anti-luetic therapy. The patient's general condition was fair in spite of his restricted ability to swallow. Upon taking liquids he would cough and strangle. He had no pain, which was remarkable in the presence of so extensive a lesion. His Wassermann was rechecked and found negative as was another biopsy for malignancy. A roentgenogram of the chest revealed "A rather marked accentuation of the hilar shadow on both sides and a generalized increase in the peribronchial makings of both lower lobes, more marked on the right than the left. There is considerable peribronchial fibrosis on each side and the condition from the radiograph is suggestive of a fungus infection." The laboratory report on the tissue removed showed it composed of a wild growth of round cell infiltration.

Dr. I. D. Michelson of the University of Tennessee studied the fungus possibilities and isolated a monilia albicans contaminated by a bacterial growth of proteus, staphylococcus aureus and streptococcus hemolytica.

TREATMENT—The iodides were administered, the lesion treated by roentgen therapy and the mouth cleansed before meals with peroxide and after meals with 1% acetic acid. The lesions were painted daily with alcoholic solutions of gentian violent. He was given intravenously 1000 cc. of 5% glucose daily. The granuloma continued to spread deeper and at the end of the month, thymol was substituted for the iodides. During the third month, sodium benzoate was given daily. After three months of medication, the lesions were arrested and a stage of scar formation began. The uvula and the pillars of the tonsils sloughed away, so that with complete healing, the remains of the posterior pillars were fixed to the pharynx in the midline, leaving only a small aperture the size of a pencil for nasal respiration. This small airway did not embarrass the patient and he could sleep with his mouth closed.

A new area developed in the mucous membrane covering the hard palate during the eighth month and rapidly spreading to include the edentulous alveolar process. It required six weeks of iodide therapy to arrest this new lesion. During the first six months of observation numerous pustules resembling pemphigoid lesions appeared over the extremities, which were treated with the same general therapy.

The second roentgenogram taken of the lungs at discharge was negative for pathology suggestive of fungus. Today, two years after his infection, he is free of fungus and in good health.

Case II——r. A. B. S., aged 50, had been treated for an angina for three months without improvement.

EXAMINATION—There was a diffuse membrane covering the tonsils, their pillars, extending up into the nasopharynx and downward into the trachea. The canals of the ears were filled with a typical fungus débris. Sensitization tests made by Dr. John P. Henry, Memphis, Tennessee, were positive to oidiomycin and trichophytin .

Roentgenological study of the chest revealed an extensive pathology. In spite of vaccine therapy, potassium iodides and even sodium benzoate intravenously, the patient died.

TREATMENT

The prophylactic use of paste containing iodoform in the mastoid and sinus surgery will inhibit the growth of the fungi. The eradication of the necessary media and the conditions of darkness, moisture and heat will clear up the simpler infections. The use of iodides, thymol and sodium benzoate individually or combined will destroy mycotic diseases. In the severe infections ,the rotation of these drugs as internal medication is advised. The iodides are given as saturated solutions of potassium or sodium iodides to the full tolerance of the patient. The thymol may be given three times a day in five-grain doses put up in O capsules filled with cod liver oil. (Personal treatment of Harvey B. Searcy, M.D., Tuscaloosa, Alabama). The sodium benzoate is tolerated up to a dram a day and in the severe pulmonary infections has been administered intravenously.

The use of roentgen therapy to the skin and mucous membrane has a beneficial action, though its effect is questionable upon the organisms. Perhaps it stimulates the tissues to greater activity.

DESENSITIZATION

The coöperation of a competent allergist is advisable and the procedure followed by Dr. John P. Henry, Memphis, is to test the patient for his sensitivity to the likely fungus. If the allergy is manifested as a vasomotor rhinitis or asthma in an off season, the Hormodendrum and Alternaria are used as test types. If the allergy is that of the skin of the external ear or the mucous membrane of the middle ear or paranasal sinuses, the monilia (oidiomycin), trichophytin and the aspergillus are the strains chosen for the tests.

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Coarctation of the Aorta*

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The cardiovascular system represents an elastic closed fluid circuit, propelled by a muscular pump and which is influenced by hydrodynamic, nervous, hormonal and physiological factors. Cardiovascular disease may both cause or result from disturbances in one or more of these factors.

The hydrodynamic or mechanical factor when manifested by arterioslerosis, is the probable cause of the most prevalent organic disease of our age, arterial hypertension. Whenever the blood supply to a vital organ is mechanically obstructed to a sufficient degree, as, by example, arteriosclerotic changes or experimentally by application of the Goldblatt clamp on renal arteries, the systemic pressure is unfortunately elevated as a whole, particularly proximally, instead of just at the necessary point of obstruction.

Other examples of cardiovascular disease caused by mechanical obstruction are the various degrees of coronary occlusion and the increased pulmonary pressure and congestion seen in mitral stenosis.

One of the most graphic examples of this principle is the condition known as coarctation of the aorta, wherein the arch of the aorta is congenitally constricted. The incidence is said to be as high as one per thousand of the general population, making it one of the most common types of congenital heart disease. In degree it varies from slight to complete occlusion of the aorta. The location usually corresponds to the sight of the prenatal ductus arteriosus, just beyond the origin of the left subclavian artery.

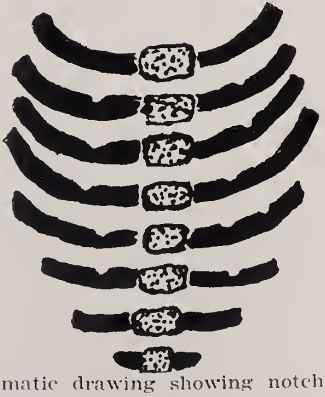
You will recall that before birth, when the lungs are not functioning, some blood passes through the pulmonary artery directly to the aorta by way of a shunt known as the ductus arteriosus, which normally involutes soon after birth to a fibrous rudiment, allowing the blood to go on through the pulmonary artery to the lung. In some way an abnormal development or involution of the embryonic ductus arteriosus is connected with a definite constriction of the aortic arch near this point.

This mechanical constriction, which amounts to a gradual ligation of the aortic arch, produces a very characteristic and logical train of findings. In the first place, the blood pressure above the coarctation is elevated and the pressure below is decreased. When a relatively young individual is found to have hypertension, coarctation should be considered, and the pressure below the thoracic aorta should be determined. This can be estimated by taking the blood pressure in a leg, which is normally greater than in an arm, but which in the presence of coarctation would be much lower. One may also feel for pulsations in the abdominal aorta or the femoral artery, which in this condition will be feeble or absent.

Another sign is the development of an extensive collateral circulation between the upper and the lower parts of the trunk to compensate for the loss in aortic circulation. This takes place chiefly in anastamoses between the internal mammary arteries and the epigastric and intercostal arteries. Other pulsatile dilatations may often be palpated about the scapular regions.

Prominent systolic murmurs caused by the constriction or by a still patent ductus arteriosus are heard at the base of the heart and posteriorly in the scapular region. After exertion, the head, neck, and upper chest may have a slight cyanosis. The dilatation of the first part of the aorta causes an increase in the area of supracardiac dullness. The increased pressure above the constriction causes vigorous pulsations in the vessel of the neck.

When the normal pressure relationship in the arms and legs is found to be reversed,



Schematic drawing showing notched ribs.

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*Read before the seventy-sixth annual session of the Mississippi State Medical Association.

coarctation may be confirmed and evidences of it visualized by x-ray examination of the chest. The aortic knob, formed by the distal part of the aortic arch, will be collapsed and not visible; and in oblique chest views, the thoracic aorta will be seen to be incomplete. The heart may be enlarged as in ordinary hypertension.

Most characteristic of all is bilateral notching or scalloping of the lower edges of the ribs due to erosion by the vigorously pulsating and tortuous intercostal arteries which, you will recall, lie in a groove along the lower border of each rib. In examining chest films made for any purpose one should form the habit of looking at the ribs closely for the possibility of this pathognomonic sign.

In conclusion, we would like to state this:

1. One should consider the possibility of coarctation of the aorta in cases of hypertension found in young to middle age individuals.
2. When relatively low pressure is found in the legs a presumptive diagnosis can be made.
3. X-ray examination shows a characteristic confirmatory picture.
4. Treatment is the same as for essential hypertension, except that the patient is usually allowed greater physical exertion.

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DISCUSSION

DR. STANLEY A. HILL (Corinth)—Like my series of leprosy cases, coarctation of the aorta has been overlooked. No doubt I had one case in each thousand persons examined—which is attributed to be the incidence—but all have been unrecognized in blissful ignorance. The term (L. *coarctatio*, from *cum* together, plus *arto* to make tight) describes a straightening or pressing together; a condition of stricture or contraction. In short, we may say it is a congenital anomaly in which the aorta is constricted several inches from the heart, usually beginning at the point of the ductus arteriosus. This bottle neck in the highway of circulation throws the overload of blood through the collateral circulation. The interval mammary, a branch of the subclavian, and the continuing intercostal arteries carry the bulk of this load.

CLINICAL FINDINGS: Hypertension in the arms, hypertension in the legs, pulsating worm-like superficial arteries over the back around the scapula, maybe enlargement of heart, and systolic murmurs that may also be heard at the back of the chest.

X-RAY: Prominent ascending aorta, absence or narrowing of the aortic knob. Also notching of the lower margins of the ribs produced by the pulsating intercostal arteries.

TREATMENT: That of vascular hypertension.

TERMINAL COMPLICATIONS: Myocardial failure, cerebral hemorrhage, rupture of aorta, bacterial endocarditis.

Cerebral Thrombo-Angiitis Obliterans*

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UNTIL RECENT years, the description by Buerger in 1908 that "thrombo-angiitis obliterans is an inflammatory affection of the deep seated arteries and veins and the superficial veins of the lower extremities, with occasional involvement of the upper extremities," was generally accepted. Hausener and Allen, reporting on 500 patients from Mayo Clinic in 1940, state that 5.7 per cent had coronary involvement, 2 per cent cerebrovascular involvement. Cohen and Barron reviewed autopsy literature in 1936 and state that the disease is probably a generalized disease process which may affect vessels anywhere in the body. Until these recent observations were published, the clinical picture was characterized by circulatory troubles of the cutaneous vessels, a feeling of rapid tiredness when walking, with attacks of pain and intermittent claudication and parasthesis of the extremities. The recent work of Jaeger, Perla, Dean Lewis and others, has shown that the central vessels are often affected similarly to the peripheral vessels. Thrombo-angiitis obliterans may start in the peripheral vessels and follow in the central vessels or may involve both simultaneously or may involve only central vessels at first and possibly, very much later, involve peripheral vessels.

Vessels of the kidneys, stomach, abdominal organs, and retina have been shown to be involved by this disease at autopsy. Infarctions in the heart musculature, due to involvement of the aorta and coronary arteries, may occur. Sudden cardiac death in young people may be explained by this disease affecting the vessels of the endocardium.

Perla, in 1925, states that "thrombo-angiitis obliterans is an extremely chronic disease, often lasting as long as 15 or 20 years. More than 80 per cent of all cases give a history of remissions, during which the patient is free of most or all symptoms." The remissions last from a few months to several years and occur at almost any stage of the disease.

The etiology is unknown. It occurs principally in males, although women, in whom it seems to be a milder affliction, are also occasionally afflicted. It was formerly considered as almost exclusively an affliction of the Jews. This view has proved untenable. Smoking in excess seems to play a part in the disease picture, as recent work indicates that peripheral vascular constriction follows the act of smoking. Theio and Freeland, 1941, suggest a disturbance in the utilization of oxygen, secondary to constriction of the vessels, as a pathologic corollary of the disease. McGrath, 1935, thinks women rarely develop the disease because of the protective action of the estrogenic ovarian substances. Rabinowitz, 1933, looks upon impaired phospholipin metabolism as responsible for all findings.

Intracranial vascular lesions may simulate a tumor of the brain and vascular disturbances over the body frequently follow in their wake. The cerebral form of thrombo-angiitis obliterans or von Winiwarter-Buerger's disease, is often difficult to differentiate from tumors of the brain. It has been variously diagnosed as hypertension, lues, brain tumor or atypical multiple sclerosis. However, symptoms of increased intracranial pressure are seldom present and symptoms of a localized cortical pathologic process are often most evident. It may be possible that cerebral-thrombo-angiitis obliterans is much more frequent than formerly thought, and that many of our organic cerebral changes may be due to the involvement of the central vessels, as well as the peripheral. The diagnosis of cortical atrophy due to a vascular lesion was made in only thirteen cases out of thirty-four cases of true cerebral thrombo-angiitis obliterans as reported in the literature. The air studies showed in all of the cases a unilateral or bilateral internal hydrocephalus and enlarged subarachnoid spaces over one or both hemispheres. Intermittent claudication following the initial cerebral symptoms, in four instances, aided in making a diagnosis. The major portion of the remainder were diagnosed at autopsy.

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*Read before Clarksdale and Six Counties Medical Society.

The cerebral type of von Winiwarter-Buerger disease occurs most frequently in males between 30 and 50 years. The symptoms may be numerous and widespread, because of the varied location of the diseased vessels. Epileptiform seizure of the Jacksonian type may be observed and psychic changes and memory defects are frequently present. Other symptoms frequently found are paresthesias, pareses, headache, aphasia, apraxia, hemiplegias, dysarthria, astereognosis, and visual defects.

Loyal Davis and Perret, reporting on the operative findings in four cases of cerebral thrombo-angiitis obliterans state that all four cases had similar typical operative findings, although the clinical symptomatology had been quite varied. They say that "The arachnoid membrane over the exposed area was thickened, and the subarachnoid space was greatly widened and contained an abnormally large amount of yellowish-brown discoloration, softening and atrophy. The gyri were small and granular and the sulci enlarged. The pial vessels (arteries in cases one and three, arteries and veins in cases two and four) appeared like thin, worm-like white strings and were completely obliterated for a distance of one to two centimeters. Proximal to these obliterative changes one could see vessels of normal calibre which contained dark thrombosed masses. Proximal to these masses the vessels appeared normal and contained blood. These changes have been observed in many of the distal branches of the middle cerebral artery scattered over the frontal, parietal and temporal lobes. The cortex supplied by these vessels contained numerous areas of discoloration and softening while other neighboring areas had undergone granular atrophy."

CASE REPORT

E. M. (male). Some hypertension for past twenty years. States has had peculiar feeling around heart, suddenly breaking out with perspiration for past ten years, intermittent claudication for two years. Pain severe in legs if walks more than one block. Has had dizzy spells since summer of 1942. Heavy smoker for years. Partial loss of strength of both hands in August 1940 with dysarthria and astereognosis. Numbness of right hand and right leg, unable to control hand properly, especially at times. Recovered somewhat later. Has kept ammonia at office for several years for "peculiar feeling." December 1941, apparently had Jacksonian epileptic attack. Semi-coma for about one hour. No memory of events. Flaccid weakness; speech mumbling, unintelligible—gradually improving. Some residual facial weakness of right side for a few days. B. P., 184/130; N. P. N., 40 mgm. Urinalysis, neg; blood picture, normal. December 16, 1941, slight impediment in speech. Weakness in both hands for three weeks. Slightly dizzy at times. Soreness in right side of neck. Cold perspiration at times. Partial paralysis right half of tongue and right hand. Disoriented. Can't walk far. Gets out of breath easily. Nocturia two or three times. Vision fair. Very constipated. B. P., 176/120; pulse, 76. Prostate enlarged, thirty cc. residual urine. Urinalysis: Yellow, acid, turbid; sp, gr., insufficient quantity; albumin, heavy trace; sugar, faint trace; pus, 0-2/HPF; numerous fine hyaline and granular casts, occ. pus cast. Blood: HB 75%; RBC 5,005,000; WBC 9,100; small lymph, 29; large lymph, 4; monocytes, 10; polys, 64; eosinophiles, 2. N.P.N. 28.5 mgm. per 100 cc. blood. Mosenthal's test. Volume and concentration fair. Urine cleared up soon under medication. Removal six teeth. March 19, 1942; Dizzy at times, legs ache if walks, worse in left leg. No spots before eyes. B. P., 194/100; pulse, 76.

August 2, 1942: Attack Jacksonian epilepsy in bath. Had to be carried to bed. Flaccid—No memory of events. Speech gradually returned. Urinalysis: Yellow, alkaline, slightly cloudy; sp. gr. 1.010; albumin, plus 2; sugar, negative. Micro-pus, 0-1/HPF; blood, negative; casts, many hyaline, occ. waxy; epith., negative; misc., neg.

September 8, 1942: Urinalysis: Yellow, acid, clear, sp, gr. 1.010; albumin, neg; sugar, neg. Micro—pus, neg; blood, neg; casts, neg; epith. neg; misc., neg.

September 22, 1942: Walked in yard. Has dizzy feeling when gets up. No speech difficulty now. Appetite good. B. P., 170/114; pulse, 86.

September 29, 1942: Urinalysis: yellow, alkaline, clear; sp. gr. 1.014; albumin, neg; sugar, neg. Micro—pus, neg; blood, neg; casts, neg; epith, neg; misc., neg; felt dizzy since noon. Felt fine until then. B. P., 152/110; pulse, 80.

October 16, 1942: Feels pretty good. Tires easily. B. P., 154/102; pulse, 81. Urinalysis negative.

October 29, 1942: Has some epigastric discomfort one half to one hour after meals. Complains of fairly constant dull ache in neck and under tongue, and across chest. No paralysis found on examination. No blowing of speech. Some oedema under eyes. B. P., 170/90; pulse 86.

November 12, 1942: Some oedema of feet. B. P., 152/106; pulse, 84. Urinalysis: yellow, acid, clear; sp. gr. 1.020; albumin, neg; sugar, neg. Micro—pus, neg; blood, neg; casts, occ. hyaline and granular; epith., neg; misc., neg.

December 29, 1942: Urinalysis: yellow, acid, clear; sp. gr. 1.012, albumin, faint trace; sugar, neg. Micro—pus, 0-3/HPF; blood, 2-4/HPF; casts many hyaline, occ. granular, cylinderoids. Epith., occ. sq., misc. neg.

Patient died cardiac death, rather sudden, apparently from coronary thrombosis. Had had slight oedema of feet and legs for past week.

EPICRISIS

Examination of this patient showed an ordinary physique, poor musculature, poor general condition. B. P. dropped from 184/130 to 134/96, in the latter part of illness due to myocardial failure and thrombosis of endocardial vessels. Vision poor for years, due probably to partial occlusion of retinal vessels. He had several attacks of right sided hemiplegia but usually recovered fairly rapidly. He suffered a permanent impairment in his power of concentration, and never regained his full power of work but returned to work after each attack until the last two attacks. Intermittent claudication of both legs had been present for at least two years. Some cerebral involvement for ten years is indicated by the history of sudden attacks of perspiration for past ten years.

To summarize, it may be said that cerebral forms of Buerger's disease are not extremely rare, and many persons thought to have juvenile arteriosclerosis probably suffer from this condition. One has to think of this possibility when confronted with cerebral disease in a young person especially if the attacks are many and fleeting. The disappearance and recurrence of the same focal signs over a period of years should focus attention on Buerger's disease. A combination of peripheral and central angiopathy should give special reason for suspicion. Intermittent claudication, coupled with repeated cerebral insults and perhaps cardiac disorder should always lead to suspicions of Buerger's disease. Marchesani found that recurring hemorrhage in the vitreous body and retinal periphlebitis in young people are or may be manifestations of Buerger's disease, these patients often exhibiting distinct signs of vasomotor and organic arteritic changes in the extremities. Many of these patients complain of intense sweating particularly of the hands and feet.

The vascular cerebral forms are a reflection of the manner in which the ischemia, which is a cause of the injury to the cerebral cells, has established itself. If ischemia is established quickly, hemiplegia occurs; if slowly, some collateral circulation develops. It is very apparent that the peripheral thrombo-angiitis obliterans may be the least serious part of the disease, as life may be terminated early by involvement of such vital structures as the heart or brain.

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Elements of Medical Statistics

FIRST OF A SERIES OF SEVERAL ARTICLES PREPARED AS AN EXTENSION OF DR. HARRISON'S LECTURE COURSE IN BIOMETRY AT THE UNIVERSITY OF MISSISSIPPI.

V. B. HARRISON, M.D.*

PART I. STATISTICS AND THE PHYSICIAN

THE PRACTICE of medicine is often described as an art and a science. Clinical medicine is an art in that empiricism was once its sole basis, is even now a major factor in its composition, and probably will continue to be an important element in its future practice. The science in medicine has been introduced, in a large measure, through the doors of anatomy, bacteriology, chemistry, and physiology. The scientific approach in clinical medicine is a relatively recent innovation, and it is still in its developmental stage. The balacing of the art and science in clinical practice is a delicate process and one that depends upon the clinician's ability and willingness to evaluate experiences.

Science is fundamentally a mathematical quantitation of individual and collective experiences. Experience may be either natural or experimental. Natural experience is largely uncontrolled, subject to many variables, and usually capricious in time, place, and duration. Experimental experience, on the other hand, is largely controlled and fixed under a set system of circumstances. Experimental experiences gained in the laboratory has its value but it can never completely replace the natural experience in clinical medicine. However, for clinical experience to have significance it must be evaluated. When so-called *clinical experience* becomes scientific experience and not merely unevaluated clinical impressions, then the practice of medicine will tend to become a clinical science.

The mathematical quantitation of vital data is called biometry or biostatistics. Biometry is an instrument which weighs or measures biological experiences in much the same manner that scales weigh food and a tapeline measures cloth. The scales and the tapeline are so much a part of commerce that one would hardly dare to sell merchandise solely on the basis of *commercial experience*, yet how often is done essentially the same thing in the practice of medicine!

The average physician's aversion to anything that even remotely resembles statistics is a well-known fact, yet frequently this same physician feels called upon to quote figures in support of some argument which he is presenting before a medical society, or for a paper which he is submitting for publication. The usual alibi for a lack of interest or understanding of statistics is that "figures may not lie, but liars figure." This is especially true when someone has upset his pet theory by introducing a mass of adverse statistical data.

The truth in the matter is that "figures" in themselves do not prove or disprove anything any more than scales which weigh food can in themselves determine the quality of that food. This point was succinctly stated by Dr. Meleney who in discussing a paper recently said (Annals of Surgery, Vol. 118, No. 2, page 314; August, 1943):

"Doctor Murray has obviously directed his criticism at the statistical study of contaminated wounds, the results of which have been reported. If one goes about *trying to prove* something by means of statistics, I admit that figures can be distorted so as to simulate proof but if one goes about *trying to find out* something, statistics may be of real value. This we have tried to do.

"Statistics so studied are more likely to bring out and support principles than they are to lay down 'rules-of-thumb.' 'Rules-of-thumb' are characterized by having no weights or measures. They are what a cook uses to bake a cake by 'rules-of-thumb.' But that is precisely what statistics are not. Summary sheets which attempt to cover all of the factors involved in a given problem permit more or less precise measurement of these factors, and punch-cards which permit cross tabulations permit an evaluation of the relative importance of the various factors involved. Figures so obtained must then be subjected to the formulae of the biostatisticians in order to rule out the element of chance.

"Under these circumstances, if statistical significant figures are obtained which seem to conflict with a principle, we must study the matter carefully to find out if it was really a principle or a preconceived notion."

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If there is any valid criticism of statistics in medicine, especially in medical literature, it is the misuse of abuse, but not the use of statistical methods. If more statistical methodology was used by medical writers, in all probability, many would feel less inclined to contribute and the quality of the resulting literature would be materially improved. Also, if more of the "consumers" of medical literature could appraise the "medical offerings" statistically, they would be less likely misled. The latter is especially important since by its very nature medical experience must be collective, for no one man can ever have a total medical experience. A single physician's experience is the summation of the experiences of many men; including his own. Therefore, the average physician should be able to judiciously analyze his own experience and the experiences of others before admitting such to his *clinical experience.*

The mechanics of biometry is mathematics, but its principles are rooted in logic. Rationalization begins before the mathematics are applied and after the mathematics leave off. Biometry, then, is an instrument to be used in the practice of medicine along with the thermometer, sphygmomanometer, microscope, and the other instruments used in the scientific practice of medicine. The average physician's aversion to statistics is due, in a large measure, to a natural human distrust of anything which one does not understand. In the interest of scientific medicine, this condition should be corrected.

The following series of articles will be an attempt to present the basic elements of biometry as applied to medicine and to minimize the "horrors" of mathematics in the process. Mathematics can be no more avoided in biometry than can the knife in an appendectomy, but once the concepts of biometry are grasped the attendant mathematics will become no more awe-inspiring than the x-ray apparatus. The "proof of the pudding is in the eating," so it is said. The "proof" is that freshmen medical students working in a crowded, accelerated, war-time curriculum are able to assimilate this course in thirty-six clock hours working time, including laboratory time in which they work problems.

Three Difficult Obstetrical Cases*

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CASE I

THIS WAS a placenta praevia, white, female, multipara, age 30. Three previous labors, first child died, other two uneventful. The onset of labor began by pain in abdomen and rupture of membrane with severe hemorrhage occurring in rapid succession. (This home was off the highway, reached by walking half mile across a muddy field during a rain.) Hemorrhage continued profusely. When I reached the patient the dilatation was two fingers. It was about six hours before dilatation was enough to permit forceps delivery. Mother died about forty minutes after delivery.

DESCRIPTION: There is widening of the lower uterine segment which retracts and tears the wall of the uterus away from the placenta attachment. The hemorrhage associated with this condition is often fatal—the source of bleeding being:

1) the sinuses of the uterine wall, 2) intervillous spaces, 3) the placenta itself, which oozes fetal blood.

The maternal mortality is high and fetal death rate still higher.

ETIOLOGY: Chronic endometritis is a most common causative factor usually resulting from febrile convalescence of former labors. Another theory maintained is that of defective vascularization of the decidua.

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*Presented to the Alcorn County Medical Society July 16, 1943.

Still another theory is a two-fold one:

1) that the chorion laeve might fail to atrophy when differentiated from the chorion rondosum and continue to grow over the decidua capsularis extending over or around the internal os, finally cleaving to the reflexa or the decidua capsularis with the decidua vera;

2) that an abnormal splitting of the decidua vera could take place allowing the placenta to grow down beyond its usual limits.

SYMPTOMS: Hemorrhage without pain late in pregnancy, most typical. Labor usually begins prematurely after hemorrhage.

DIAGNOSIS: During the last three months of pregnancy, hemorrhage without pain should suggest placenta praevia. Fetal heart sounds are unaffected. Vaginal examination establishes this diagnosis but should be made with utmost care and gentleness.

TREATMENT:

1. Morphine.
2. Fluids in quantity.
3. Recumbent position in bed with foot elevation.
4. Warm water bottles and blankets to combat shock.
5. Pregnancy should be terminated as soon as diagnosis of placenta praevia has been established.
   (Vaginal pack is not recommended since it will make the flow more profuse.)

CASE II

Face presentation, white female, age 35, multipara. Apparently the prenatal period was uneventful, having been seen only once before being called to the house. The patient had been in labor three days! Pelvic examination revealed a high cervix, very little dilatation, barely able to reach the fetus and completely unable to determine the presenting part. After some manipulation of both the abdomen and cervix the baby was born in three more hours, very blue with distorted features. Mother and baby are doing fine now.

The mechanism of face presentation is similar to that of brow. Variety in chin position: namely, mento-anterior or posterior.

Factor of utmost importance in face presentation is the direction in which the chin rotates internally during descent. Anterior rotation of the chin is essential because the protuberant posterior portion of the molded head can be accommodated within the hollow cavity of the sacrum. Posterior rotation of chin results in impaction in the hollow of sacrum.

With internal anterior rotation of chin partial flexion follows further descent, the chin appearing beneath the symphysis pubis, birth being by flexion followed by external extension and restitutional rotation.

Diagnosis is recognized easier by abdominal examination, however, vaginal examination discloses the characteristic rough surface of the face. Most important factor to be considered in management is in determination of variety of position. Due to the fact that the orifice of the anus resembles that of the mouth, face presentation is often confused with breech.

Treatment is essentially the same as that of brow presentation if chin is undergoing anterior rotation.

Many cases deliver spontaneously or can be delivered fairly readily by forceps. Deep episiotomy is usually necessary.

Internal and external manipulation may be required to convert the face into a more favorable position. One method is by grasping the scalp over the vertex by means of a tenaculum forcep so that it may be held in a flexed position until labor has been well established and the ability of the patient to engage the head has been determined.

Posterior rotation and impaction of the face in the hollow of the sacrum cannot be delivered by ordinary measures, and the management of this complication depends largely upon the condition of the child. Craniotomy should be resorted to if the child is dead or dying.

Caesarean section is seldom advisable. When operation is used even when child is still living the choice is between craniotomy and hebosteotomy.

Hebosteotomy usually enables the patient to deliver full term babies later due to the permanent enlargement of the pelvis.

Mortality rates are maternal, 15.5 per cent in craniotomy, fetal 100 per cent.

CASE III

White, age 20, one previous normal labor. The membranes ruptured four days before the date of delivery and I was not called until the day of delivery. This was a very tedious case due to the premature separation of placenta. Forceps delivery was successful without a critical loss of blood.

ETIOLOGY: Indefinite, but believed to be the result of poorly developed uterine musculature, of anomalies in uterine innervation, of loss of tone of uterine musculature and mechanical interference.

TREATMENT: When feasible, the patient should be moved to the hospital, blood donors secured and labor terminated by Caesarean section or forceps delivery. If Caesarean section is elected then the question of amputating the uterus will depend on the absence of the normal contractions after the third stage. Also after forceps delivery the uterus may fail to contract and require packing.

REFERENCE

Management of Obstetric Difficulties—Titus. (C. V. Mosby Co.)

Virus Pneumonia*

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CASE REPORT

Mr. A. B. R., white male, age 50, farmer.

Past History—All childhood diseases but no other serious illness.

Chief Complaint—Fever, rigors and pain in the right lower chest.

Present Illness—Began about 6 weeks ago with rigors or chills. He was put to bed and given a sulfa drug for several days and also was given symptomatic treatment. This condition continued for 5 weeks and still did not improve and he was then sent to the hospital.

His temperature on admission was 103.2°. His general appearance was poor, rather thin and skin a poor color. Physical examination showed a few rales in the base of the right lung, dullness on percussion and pain all the time but worse on deep breathing. Left lung clear. No other physical findings. White blood count 10,850, malaria negative, sulfathiazole determination of the blood 2.5 mg. per 100 cc. whole blood. Urinalysis showed bile 3 plus, occasional pus cells and casts. X-ray of chest showed light filmy cloudiness of the base of right lung, diaphragm obscured and also a small cloudy patch just below the hilus. Left was clear and angle of the diaphragm clear. The next day after entering hospital his temperature reached 104° at 8:00 P. M. His morning temperature did not go over 99.8°. The temperature gradually dropped lower each afternoon until the fifth, when it remained normal.

This case was diagnosed as a virus pneumonia and was treated with sulfathiazole and catarrhalis immunogen vaccine daily. He was allowed to go home on the second day his temperature remained normal. He was feeling very good at this time and had no pain. The second day at home he began to have pain in the left lower chest and a rise in temperature every afternoon and night. He gradually got worse and was brought back to the hospital one week from the date of discharge. X-ray of the chest showed a light filmy cloudiness of the base of the left lung, diaphragm obscured. The right lung was practically clear. His temperature did not go above 103° but was much slower reaching normal which was on the ninth day. His pain gradually subsided and on discharge had stopped completely. The last report on his condition after going was that he was improving but very slowly.

This train of symptoms with the x-ray and laboratory findings are fairly typical of virus pneumonia. The condition frequently changes from one lung to the other as it did in this case, and the recovery is usually very prolonged.

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The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

When it comes to a matter of state medicine, it should be remembered by members of Congress and the people at large that the United States is now furnishing the best medical care of any nation on the earth. And too, while we fight for world freedom it is consistent that we keep our medicine democratic. Our soldiers will be found to be the most fit before this world struggle is over, the very bravest, the most resourceful, the ablest. They were conceived in liberty, brought forth in democracy, and nurtured on the food of justice seasoned with the idea of service as the measure of greatness. The free brain is superior It thinks deeper and broader and farther and moves with greater power and momentum than the one that is bridled from the beginning and dominated. England and Germany have been leaders in medicine in the past, but they are not now. They did not keep the channels through which it flowed free and their medicine lost in growth and in efficiency.

Let us hold on to what we have, apply it more efficiently and go forward, not only for the sake of the profession, but for the good of the people.

Mississippi has a per capita distribution of funds for the indigent sick. We should be very proud of this plan. In substance it means that any urgently sick person who does not have the price can go to the nearest hospital, call the doctor of his choice, and the state will pay his hospital bill at a cost price. This is the greatest step forward that has been made up to date for the application of modern medicine to the rank and file. The state pays two dollars and fifty cents per day to the hospital for the room for the indigent. With prices as they are this amount should be increased to three dollars a day anyway. The total amount should be increased enough to allow some of the more chronic cases the benefit of hospitalization. It would be entirely all right to have our funds for the indigent supplemented by national aid, by philanthropy and the church. The state and the community should be allowed to administer the funds. To aid the distribution of doctors, a cost price for operation may become necessary. If this could be added to our set-up in Mississippi, then doctors would charge according to the ability of the patient to pay, Mississippi's medical problem would be largely solved—except for the shortage of doctors.

We are very grateful to the doctors who are carrying courtesy cards with us. It helps us finance the journal and gives us a lot of courage through good will. We hope others will come in with us. We would like to suggest that doctors add their telephone numbers to their cards.

SOUTHERN MEDICAL GOES AHEAD

The Southern Medical Association is to be congratulated on its very successful meeting just held in Cincinnati. It was termed a Kentucky meeting. The attendance was fine and the interest was the best we have ever seen at a meeting of the Southern in our opinion. Dr. Harvey Garrison, Sr., of Jackson, Miss., the president, performed every duty exceedingly well. His address is one of the best ever delivered before the association and should be read by every doctor in the bounds of the Southern as well as by every lay mother.

The Southern Medical Association is the second largest medical group in the world from the standpoint of numbers. From the standpoint of merit it really stands at the head of the list we believe. This association takes the position that this is no time to ration the flow of medical information, much less freeze it. The meeting was streamlined to a certain degree, golf, social functions, and frills being eliminated, and one day saved. Sections were merged into medicine and surgery. Instead of discussions of papers, direct questions were permitted, and the essayist answered them. Questions and answers were taken down by stenographers and will appear along with the papers. It seems to us that this is a good plan, saves valuable time and multiplies the information for those who are anxious to learn. This meeting of the Southern indicates that medical men do not attend the meetings for entertainment. A cue could be taken here for our state meetings. Earnest medical men attend the meetings to learn and to share medical progressive thought.

The Southern will hold its annual meeting again next year as usual unless something more than we have before us prevents. St. Louis extended a cordial invitation, but the place and the time is left in the hands of the executive committee.

We regret the absence of Dr. G. S. Bryan's editorial in this issue, and offer our sympathy in his anxiety. Dr. Bryan writes:

"Owing to the fact that Mrs. Bryan's health is so precarious, I find it difficult to concentrate on outside matters. Of course, I realize that there has never been a time when doctors needed more to hold together and to strive to give the best there is in them to their patients and to mdicine. However when one's own household is invaded by sickness, it is difficult indeed to keep up outside affairs and interests.

Yours very sincerely,
G. S. Bryan"

The government is offering to pay the hospital bill for confinement cases of mothers whose husbands are in the service below the rank of lieutenant. Twenty-five to thirty-five dollars is also allowed for the doctors. The price paid the hospital for one week runs about a general average for hospital cost. The price paid doctors is quite a bit more than some receive in the rural communities. It is now as much as some receive in the cities of course. But we believe that hospitals and doctors in our state as a rule should coöperate in this plan. A few hospitals and doctors are holding out it seems because they think this is another entering wedge for state medicine. Perhaps they are right, but we can not see that it is wise to remain aloof. The government and the medical profession must coöperate in order that all the people may have medical care. We can not afford to be too independent, or show a CIO attitude. The medical profession has a problem before it even now in the distribution if prices and the leveling of prices. Taking care of the expectant mothers of the boys in the army will have a tendency to do this along the proposed plan. Anyway, it is right. These boys are risking their lives for us and for our country and we must help their wives. It will improve morale and promote good will for the profession. Our strength will be multiplied if we go half-way and more in this time of emergency.

We appreciate our advertisers, one and all. We believe they have the vision of service. Doctors can not take the time nor do they have the facilities to mix their drugs as they did in days gone by. We think there should be a friendly relation between the doctors and the ethical biological houses and those supplying instruments. Medical journals and medical associations keep medical information in liquid form and keep it flowing in applied service. Without aid from our advertisers it would be hard to do. Everything else being equal, we want to ask our readers to give first consideration to houses using space in our journal. This is one way you can help the journal, and it will leave you no poorer.

News and Comment

We believe every doctor in the state will read with interest the following resolutions and will study them with the determination to do something about the medical problem which now confronts this nation. It is reasonable that adequate medical care to every citizen in the United States is good human economy. It is also evident that a brotherhood plan of sharing the cost in the form of an insurance plan must be adopted to furnish the needed finances. The county, state, and nation will need to coöperate and the medical profession must do its full duty. We must save democratic medicine and the doctor-patient relationship if medical service is to go deeper and further in the interest of humanity. Dr. R. J. Wilkinson of Huntington, West Virginia, president of the West Virginia Medical Association, possesses medical vision and he is aggressive in organized medicine.

REPORT OF THE FACT FINDING AND PLANNING COMMITTEE SUBMITTED TO THE COUNCIL OF THE WEST VIRGINIA STATE MEDICAL ASSOCIATION AND UNANIMOUSLY APPROVED SEPTEMBER 30, 1943.

Realizing that the cost of medical care has advanced markedly during the past few years, so much that for the average wage earner a serious illness becomes a financial catastrophe, the cost not chargeable to the physician, but to increased cost of hospitalization and diagnostic procedure necessary to give the patient adequate medical care, and realizing that the cost can only be met by a distribution in some form of prepaid medical service, the Fact Finding and Planning Committee makes the following recommendation:

1. That regional non-profit medical service plans be developed immediately as community projects with the endorsement and support of component medical societies; that the plans be operated by group hospital service with the joint supervision of an advisory committee elected by the county medical society and a central state committee appointed by the president of the State Medical Association; that a medical service contract be offered to the public on a periodic prepayment plan to pay the cost, in whole or in part, of surgical, obstetrical and medical service while a bona fide patient in a hospital; that the details of these plans and contracts be left to each community; that nothing be done that might in the least interfere with doctor-patient relationship; and, that the patient have the free choice of hospital and doctor.

It will be the duty of the state committee, together with the committee representing hospital plans operating within the state, to formulate a basic contract, and particularly to see that this service is made available to every community of the state, with particular emphasis on rural areas.

2. That each county society, through a committee, be asked to survey its plan for the care of the indigent sick, and to send a report with their recommendations to the Fact Finding and Planning Committee.

3. That the public health work be extended and that measures be taken to assure adequate public health units for every county or group of counties. The committee believes that as far as possible the work of these units should be limited to preventive medicine, immunization, and particularly to education of the public in health matters.

4. That the Woman's Auxiliary's proposed educational campaign be indorsed, with the medical advisory committee working closely with the group in preparing their material.

RESOLUTION

Adopted by the Central Medical Society.

WHEREAS, medicine throughout the years has striven for the general physical good of the sick, and

WHEREAS, experience has demonstrated that this art has rendered its best service when untrammelled by bureaucracy and interference from the non-medical forces, and

WHEREAS, this service has been freely given, to the needy without hope of monetary reward, and in countless numbers to those who were able to pay yet did not do so, still the medical profession has continued to serve the deserving needy as well as the ungrateful along with those who did compensate for services rendered, and

WHEREAS, time has proved that individual effort has made for progress, regimentation of medicine, as practiced in certain European countries, has shown lack of individual effort and a consequent deterioration of the science and the art of medicine in these countries, where state medicine has been adopted, and

WHEREAS, there has been introduced into the Congress of the United States a bill, known as Senate Bill 1161, sponsored by Senator Robert E. Wagner of New York and Senator James Murry of Montana, which bill, while purporting to be of interest to both the profession and the laity, is decidedly subversive to the good of the profession, and the hospitals serving them, and

WHEREAS, the enactment of the provisions of this bill into law would strip the medical profession of its initiative, so characteristic of progressive medicine, would remove the close relationship of doctor and patient, so dear to the patient and so conductive to the doctor's success with his patient, and render the hospitals less efficient in caring for those coming to them for help, therefore

Be It Resolved, by the Central Medical Society, Jackson, Mississippi, in regular session, this the seventh day of September 1943, the Society does believe the enactment into law of Senate Bill 1161 would work to the general deterioration of the medical services, placing too great a concentralization of authority in one person, would cause a lessening of the efficiency of hospital care and place an unnecessary burden upon an already tax-ridden citizenry, and be it

Further Resolved, that a copy of this resolution be sent to each of our United States senators and congressmen and urge them to exert their efforts toward the prevention of the passage of this measure.

James Grant Thompson
President Central Medical Society
H. C. Ricks, M.D.
Secretary Central Medical Society
J. P. Wall, Committee Chairman

AMITE-WILKINSON

The regular quarterly meeting of Amite-Wilkinson Counties Medical Society was held at Field Memorial Hospital, Centreville, Mississippi, Thursday evening, September 23. A good attendance, including the wives of members, was noted. The absence of Dr. W. R. Brumfield, our oldest practitioner, and his good wife was keenly felt and the society reporter was instructed to write a letter to Dr. Brumfield, for the society, expressing this sentiment. Dr. Corinne Eddy, Amite's newest member and Directress of Amite County Health Unit was present and made an important announcement. Dr. H. Murray Wingard, Wilkinson health officer, was elected a member of the Wilkinson County Society.

In the absence of a specific program, several interesting and instructive discussions were held. Outstanding of these was the use of pentothal-sodium as an ideal, brief, general anesthetic. This discussion was lead by Dr. R. J. Field.

Most important topic of discussion, however, was the medical phase of Senate Bill 1161, now in the hands of the Finance Committee, presented on June 3, 1943, by Senator Robert F. Wagner of New York for himself and Senator James Murray of Montana. The following resolution of protest against its recommendations effecting medical practice in the United States of America was unanimously adopted by the society:

A Resolution

WHEREAS the recommendations in this bill, if enacted into law, will destroy the effectiveness of medical service and care in the United States of America, and

WHEREAS the doctor-political control of medical care and service means incompetence, loss of initiative, professional deterioration and the forfeiture of self-respect, and

WHEREAS under the present American system, American medicine and American doctors have developed the most effective and the most widely distributed medical care that has ever been provided for any comparable number of people anywhere and at any time, and

WHEREAS with adequate government financial support, properly equipped hospitals, clinics, health centers as well as facilities for medical research at the disposal of the medical profession independently, as a sacred trust to the people, the very classes referred to in the Bill would receive more adequate personal attention and medical service than if forced to render the same service under the more expensive political and socialistic regime proposed in the Bill; and would at the same time perpetuate the fine spirit of competition, cooperation, efficiency and achievement that has always been an outstanding characteristic of the American medical profession, therefore

BE IT RESOLVED that a copy of this resolution and protest be placed in the hands of our United States senators and congressmen, the secretary of our State Medical Association, the press, and a copy spread upon the minutes of the society for its record.

AMITE-WILKINSON COUNTY
MEDICAL SOCIETY
W. T. Thornhill, M.D., Secretary (Amite)

SOUTHERN MEDICAL OFFICERS

The Southern Medical Association, which held its annual meeting November 16, 17, 18 in Cincinnati, Ohio, was counted a Kentucky meeting. Kentucky and Cincinnati were mighty cordial and hospitable to the Association. Dr. Harvey F. Garrison,Sr. of Jackson, Miss., was president and Mrs. Richard H. Clark of Hattiesburg, Miss., was president of the Auxiliary, both bringing much honor to the state during their terms of office.

The following are the new Southern Medical Association officers, elected in Cincinnati:

President—Dr. Edgar G. Ballenger, Atlanta, Ga.

Vice-President—Dr. James A. Ryan, Covington, Ky.

Chairman of Board of Trustees—Dr. J. W. Jervey, Greenville, S. C.

Chairman of Council—Dr. Marion C. Pruitt, Atlanta, Georgia.

Executive Committee of Council—Dr. Oscar B. Hunter, Chairman, Washington, D. C.; Dr. Curtice Rosser, Dallas, Tex.; and Dr. Neil S. Moore. St. Louis, Missouri.

The Council on Industrial Health has prepared the following report as an aid to physicians and committees on industrial health in state societies. C. M. Peterson, M.D., Sec'y.

STANDING ORDERS FOR NURSES IN INDUSTRY

For some time the medical and nursing professions have been concerned about the employment of nurses, in industry without adequate medical supervision. The Council on Industrial Health has therefore been requested to formulate standing orders for industrial nurses which can be adapted to meet the requirements of individual industrial medical departments. If no responsible industrial medical authority exists, it is recommended that the nurse request helpful instruction in this regard from the committee on industrial health of the appropriate county or state medical society.

Emergency Procedure in Industry

General principles which operate in all emergency situations apply to industry as well. They are:

1. Call a physician immediately.
2. Stop bleeding.
3. Restore breathing.
4. Prevent shock and infection.
5. Do no more than is actually needed.

The supervising physician should assure himself that these instructions are thoroughly understood and should institute special training when necessary. Nurses in industry should qualify as first aid instructors.

Emergency Supplies. — Emergency packs with essential sterile supplies should be available at all times in the medical department and in first aid kits suitably located throughout the plant. Regular inspection is necessary.

Hemorrhage.—Bleeding calls for immediate attention. The nurse should notify the physician and, until he arrives, proceed as follows:

1. Expose the wound.
2. Remove obvious foreign matter.
3. Apply pressure.

Direct manual or bandage pressure firmly applied over sterile gauze at the bleeding site will effectively control moderate hemorrhage. Indirect compression is indicated in excessive bleeding not controllable by direct methods. Digital compression over the vessel against underlying structures either adjacent to the wound or at the nearest pressure point will usually suffice until the physician arrives. Indirect pressure should be applied proximal or distal to the wound, in keeping with the arterial or venous character of the bleeding. Hemostats or clamps should be applied whenever the emergency warrants it.

Avoid applying a tourniquet if possible. If severe bleeding in an extremity suggests the use of a tourniquet, apply a blood pressure cuff.

The nurse should remember that:

1. A direct pressure bandage should not act as a tourniquet.
2. A tourniquet must be periodically released at least every fifteen minutes.
3. No dressing should be applied over a tourniquet.
4. Asepsis must be observed at all times.

Asphyxia.—Cessation of breathing from any cause demands:

1. Artificial respiration *at once* and *at the site of the accident.*
2. Notification of the physician.
3. Maintenance of body warmth. Avoid excessive heating.

All industrial nurses should demonstrate ability to apply artificial respiration by the prone pressure method and should realize the need for its continuous application until breathing is restored or until careful repeated medical examination advises otherwise.

Shock.—Early and adequate shock treatment is life saving. Do not delay.

Common symptoms of shock following injury are pallor, perspiration and rapid thready pulse. Emergency management by the nurse should include:

1. Notification of the physician.
2. Removal of cause. If shock is due to hemorrhage, control it. If it is due to trauma not associated with bleeding, all active treatment of injury should be deferred until shock management has been instituted. Wounds should be covered with sterile dressings to prevent infection.
3. Relief of pain: 1/6 to 1/4 grain (0.010 to 0.016 gm.) of morphine sulfate, repeated if necessary, or barbituates as routinely ordered except in injuries to the head or trunk.
4. Keeping the patient warm, dry, and on his back with his head low. Avoid overheating.

Routine Nursing Care of Injuries

Successful medical management of industrial injuries depends on:

1. Prompt treatment.

2. Meticulous cleansing and dressing.
3. Examination of deep as well as of superficial structures.

To accomplish these aims the routine functions of the nurse should be confined to care of minor wounds as follows:

1. Protect wound with sterile gauze while adjacent area is cleansed with soap and water or solvent.
2. Discard protective dressing and clean wound margins.
3. Irrigate wound with sterile water or isotonic solution of sodium chloride.
4. Apply antiseptic of physician's choice.
5. Apply dry sterile dressing, interfering as little as possible with function. Sterile dressings should be covered with protective material for use at work. The worker should be instructed not to remove the dressing but to return to the medical department if it becomes loosened or uncomfortable.

The nurse should do no more than is actually needed. The following conditions require direct medical supervision:

1. Wounds requiring débridement.
2. Those with obvious or suspected involvement of deep structures.
3. Wounds with edges which do not approximate.
4. Wounds about the head and face.
5. Contaminated wounds requiring tetanus prophylaxis.

Management of Common Injuries.—Injuries most likely to be encountered in industry include the following conditions:

1. Abrasions: Clean and apply dry dressing. Extensive or deep loss of skin, especially about the fingers and hands, needs medical attention.
2. Contusions: Treat with cold compresses directly following injury, later with moist heat. If soreness or disability persists or if deep involvement is suspected, refer to the physician.
3. Lacerations: Clean and apply dressing as directed. Any possibility of injury to joints, nerves or tendons should be brought to the physician's attention at once.
4. Puncture Wounds: Puncture wounds through the skin need direct medical supervision to avoid or treat severe infection. If superficial, clean and apply sterile dressing.
5. Slivers and Splinters: Penetration through the skin by slivers or splinters always carries the risk of an infected puncture wound and should be treated as such. Those lodged superficially and easily removed without added trauma or incision may be extracted aseptically by the nurse.
6. Burns and Scalds: Clean minor burns with soap and water. Apply petrolatum or 5 per cent boric acid ointment, bandaging firmly without interfering with function. Leave blisters alone.
   - (a) Notify the physician.
   - (b) Cover the burned area with a sterile dressing or sheet moistened with isotonic solution of sodium chloride or 5 per cent sodium bicarbonate solution.
   - (c) Combat pain and shock.

In the absence of specific orders, chemical burns should be treated by irrigation or immersion in water for at least twenty minutes and then by dressing.

7. Sprains and Strains: Treat first with cold compresses, elevation of the part and rest. A physician's advice is necessary regarding strapping, other methods of support or fixation, further examination or special therapy.

FRACTURES

Preliminary steps for the nurse are:

1. Call a physician at once.
2. Keep the patient quiet and warm.
3. Immobilize before any movement is attempted.
4. Do not attempt reduction.
5. If the fracture is compounded, cover the site of the fracture with a dry sterile dressing. *Do not cleanse or reduce.*

Special instruction in splinting should be provided every industrial nurse.

EYE INJURIES

Rigid aseptic technic must be scrupulously observed in all eye conditions. Never attend consecutive patients without sterilization of instruments and careful hand washing. Remember that early symptoms of infection simulate foreign body.

Minor Burns.—Do not apply ointments to minor burns of the skin about the eye. Apply a sterile dressing and refer to the physician.

Burns of the Eye.—1. Chemical Burns: Irrigate chemical burns of the eye *copiously* and *at once* with water, preferably by immersion.

Neutralizing solution are usually inadequate or unavailable. The rapidity with which the irrigation occurs is more important than the type of solution used. Continue to irrigate at least twenty minutes by the clock.

2. Hot Metal Burns: Apply a sterile pad and refer at once to the physician. Do not irrigate. An anesthetic should be applied as ordered by the doctor.

Every burn of the eye should receive competent medical attention early.

Foreign Bodies.—The nurse should attempt to remove only those foreign bodies of the eye which can be readily located and which can be easily washed out or removed with a dry sterile cotton applicator. An antiseptic may be applied if the physician so orders.

Direct medical care is essential:

1. If the foreign body cannot readily be located. Stains to aid in the location of foreign bodies should be used only on specific medical order.
2. If removal requires any instrumentation.
3. If irritation or pain persists after removal.

No person with an eye injury should be discharged without examination by a physician.

"Flash" injury.—First aid treatment should include:

1. Local anesthetic as ordered.
2. Cold compresses.
3. Sedatives.

Persistent pain following flash needs medical examination and treatment.

Conjunctivitis. — Conjunctivitis or other forms of conjunctival irritation should be referred routinely to the physician or ophthalmologist.

HEAD INJURIES

Until the physican takes over, the nurse should:

1. Keep the patient lying down.
2. Elevate the head.
3. Apply ice cap or cold compress. *No sedatives.*
4. Record pulse and respiration every ten minutes.

Clip or shave and cleanse areas adjacent to scalp lacerations, and cover with a sterile pad.

CHEST AND ABDOMINAL INJURIES

Contusions of the chest and abdomen with or without external evidence of injury may result in trauma to underlying organs.

Until seen by the physician, such patients must be:

1. Kept warm and quiet.
2. Allowed no sedatives.
3. Have pulse, temperature and respiration recorded frequently.
4. Suitably bandaged to avoid contamination

In case of abdominal injury give nothing by mouth.

CARE OF MINOR ILLNESS AND SYMPTOMS

Presistent or augmenting symptoms of irritation, discomfort or disability suggest faulty work environment. The nurse should not hesitate to ask for medical examination of workers and of the premises.

Fever.—A rise in temperature of 1 degree suggests medical consultation before work is resumed. Findings should be checked by repeated thermometer recordings.

Headache.—Record temperature. If headache is accompanied by dizziness, nausea, vomiting, stiffneck , injury, history of recurrence, fever, general malaise or other symptoms the patient needs medical attention. If not, give an analgesic as ordered by the physician.

Remember that headache or dizziness may be premonitory signs of intoxication.

Unconsciousness.—1. Fainting. Usual symptoms are pallor, with shallow breathing, slow and weak pulse. Period of unconsciousness is of short duration.

Keep the patient lying down with head lowered until fully recovered. Be sure the patient has plenty of fresh air. Clothing should be loosened and stimulating inhalants used, such as ammonia or smelling salts.

2. Other causes. If other signs are present or if unconsciousness persists longer than a few minutes, call for medical assistance. *Give nothing by mouth.*

Toothache.—If there is a cavity, the nurse may pack it with cotton dipped in oil of cloves for temporary relief. For further examination and treatment refer to a dentist.

Nosebleed.—Spontaneous nosebleed may be treated by cold packs or pinching the sides of the nose against the septum. Keep the patient sitting erect or standing and loosen the collar if it tends to constrict the neck. Advise the patient not to breathe or blow through the nose for an hour or two after bleeding has stopped.

Bear in mind that certain occupational exposures are manifested by nasal damage and bleeding.

Sore Throat.—Patients with sore throat may be given a hot saline gargle if they have a normal temperature. Do not "paint" the throat. Any persistent sore throat or one associated with fever needs medical care at home.

Respiratory Irritation or Infection.—Repeated or persistent signs of bronchial or chest irritation without associated infection suggests an unfavorable occupational exposure. A plant hygiene survey is indicated.

Persons having acute respiratory infections with elevated temperature, cough, sneezing or nasal discharge should be sent home for proper segregation, rest and medical attention. In mild infections, work may be continued if under medical or nursing supervision simple measures will control symptoms and prevent spread.

Available medical evidence at the present time cannot support routine administration of cold vaccines or vitamin preparations as methods of reducing the incidence or severity of acute respiratory infections.

Frequent colds or chronic respiratory conditions require special medical consideration.

Abdominal Distress.—Early signs of occupational intoxication may be abdominal in character. In any case abdominal distress, nausea or pain, especially if severe or persistent, requires competent medical diagnosis and management.

Laxatives should never be dispensed from an industrial medical department.

Dysmenorrhea.—Painful menstruation not associated with fever or gastrointestinal disturbances may be treated with an analgesic ordered by the physician and the patient placed at rest with heat to the lower part of the abdomen. If there is not relief or if other signs or symptoms present themselves, she should be referred to her physician.

Patients with recurrent severe dysmenorrhea should not be given palliative treatment. They should be referred for examination and treatment.

Announcement is made that the Directory of Medical Specialists is now to be published by the A. N. Marquis Company of Chicago, publishers of "Who's Who in America." Previous editions have been published for the Advisory Board for Medical Specialities by the Columbia University Press of New York City.

Communication should be addressed to Dr. Paul Titus, Directing Editor, Directory of Medical Specialists, 919 No. Michigan Avenue, Chicago (11), Illinois.

THE SIXTH ANNUAL FORUM ON ALLERGY WILL MEET IN ST. LOUIS

The sixth annual forum on allergy will be held in the Statler Hotel, St. Louis, Missouri, on Saturday and Sunday, January 22-23, 1944. This is a meeting to which all reputable physicians are most welcome, and where they are offered an opportunity to bring themselves up to date in this rapidly advancing branch of medicine by two days of intensive postgraduate instruction. For instance, the fifteen study groups, any three of which are open to him, are so divided that those dealing with ophthalmology, and otolaryngology, pediatrics, internal medicine, dermatology and allergy run consecutively. In addition the study groups are arranged on the basis of previous registration. In this way, as soon as the registrations are completed, the registrant is expected to write the group leader and tell him just what questions he wants brought up in the discussion. Attention is also called to the fact that during these last two days almost every type of instructional method is employed. Special lectures by outstanding authorities, study groups, pictures, demonstrations, symposia and panel discussions.

DR. W. H. WILLIAMS HEAD CLARKSDALE AND SIX COUNTIES MEDICAL GROUP

Dr. W. H. Williams of Tunica was elected president of the Clarksdale and Six Counties Medical Society succeeding Dr. G. C. Denson of Vance.

Dr. G. Y. Post of Clarksdale was re-elected secretary-treasurer. New vice-presidents are Dr. H. L. Cockerham, Bolivar; Dr. I. P. Carr, Coahoma; Dr. J. P. Walker, Quitman; Dr. Paul R. Googe, Tallahatchie; Dr. T. K. Chandler, Tunica.

Dr. W. S. Slaughter of Jonestown was elected a member of the board of censors for three years.

On the program were Dr. T. G. Hughes, Clarksdale; Dr. William C. Chaney, Memphis; Dr. E. Leroy Wilkins, Clarksdale, president of the Mississippi State Medical Association.

DANGER FROM FLUOROSCOPY

A number of articles have been published concerning the dangers connected with fluoroscopy. Recent measurements have shown that these warnings must be taken seriously and that they concern the whole medical profession. The problem is more acute now when the serious film shortage may call for more extensive use of the fluoroscopic method, and it seems advisable to call attention to a few pertinent facts.

No fluoroscopic unit should be used unless the doctor in charge has convinced himself that the conditions under which it is operated are reasonably safe. A continuous vigilance is necessary, and it is not enough to know that the conditions were satisfactory at one time in the past.

A shock-proofed arrangement should remove electrical dangers but a broken cable or a casual repair may lead to electrical hazards, and many of the old machines have exposed high-voltage leads. Grounding a part of the apparatus may not always serve as protection, and if the ground is applied at the wrong place the danger may be increased. A careful expert inspection is needed and there can be no valid excuse for an accidental electrocution. Such accidents have occurred a number of times.

Roentgen rays from fluoroscopic units have caused innumerable sequelae to both patients and physicians, and serious damages often still result in spite of the knowledge that now is available.

In order to obtain adequate protection, it is first required that the tube be shielded so that no radiation of any consequence escapes in any direction except in the useful beam. This may be checked roughly with a hand flouroscope or more accurately with a roentgen meter with a sensitivity of 0.01 r or a Geiger-Miller Counter. After this first requirement has been fulfilled several other precautions must be taken.

For any intelligent use of fluoroscopy, it is important to know the amount of roentgen rays reaching the skin of the patient and of the examiner, and that has to be determined by means of measurements. The total dose received depends upon the intensity and the time of exposure. The intensity depends upon a number of factors and varies widely in practice. A reasonable intensity at the skin of the patient nearest to the tube amounts to about 20 r per minute.

The intensity may be reduced by increasing the distance from the target to the patient. This distance should be at least 28 to 30 cm. It can also be reduced by lowering the current which should not exceed 4 to 5 ma. If the fluoroscence is not bright enough the voltage may be raised and it is advisable to use rather high voltage, preferably 80 kv. or 100 kv. if possible with the equipment. With a high voltage a filter helps to lower the intensity considerably and a 1 mm. aluminum filter should be permanently attached.

With the use of 28 cm. target skin distance, 90 kilovolts and 4 ma. and 1 mm. aluminum filter, the intensity can undoubtedly be kept within the safe range, but it is still advisable to have it measured so that the number of roentgens applied per minute will be known.

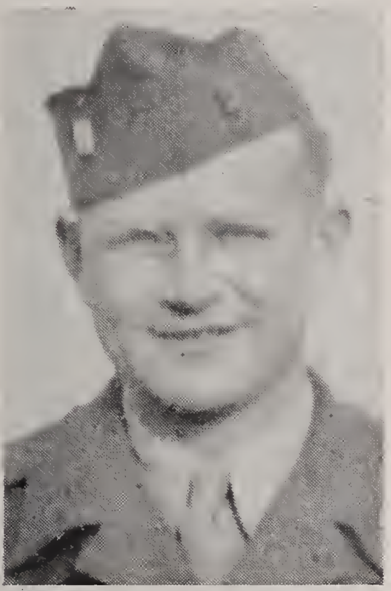
The time used for an examination should be kept at a minimum. It should be measured and recorded. A foot switch should be used so that the current applied to the tube may be limited to the time of inspection. The use of a timer, which sums up the exposure and shuts off the machine when the dose decided on has been given, is advisable.

Some fluoroscopic examinations require an exposure of 5 minutes. With an intensity of 20 r at the patient's skin, this means a dose of 100 roentgens. A dose of 75 r is often used for treatments of skin diseases and the title of a publication in *The Journal of Radiology*, "Roentgen Therapy in Fluoroscopy" is, therefore, no exaggeration.

The rules laid down here for the safety of the patient may seem drastic. They are, however, not difficult to follow after they once have been accepted and certainly patients have the right to expect the physician to take the necessary precautions in order to avoid serious injury from a simple examination. These rules also help to protect the examiner, though any injury to him is due to accumulation of exposure over long time rather than to a single dose. He must be particularly careful to protect the hands which are inevitably exposed at palpation during the fluoroscopic examination. The use of lead-rubber gloves may help but not unless the gloves are heavy and designed to shield the whole hand can they be relied upon to give complete protection. Light gloves may give a false sense of security. The examiner must in any case be aware of the danger and take all precautions possible.

Doctors in the Service

We want to know the address of every doctor in the service. We want to get the *Mississippi Doctor* to him each month. We want to hear from every one possible. We are paging the wives and the Auxiliary to help us with this.



Capt. Hunter Scales, Jr.

Capt. Hunter Scales, Jr., formerly of Starkville, sends greetings from his post with the Marines in the south Pacific. Along with this snapshot of himself he enclosed a little picture of his turnip patch under the post water tank. He said he and another Southern boy, hungry for some turnip greens, planted a small patch, and as soon as the leaves were large enough, gathered some, slipped away into the bushes to cook them and a corn pone. "It was one of the most enjoyable meals that I have had since leaving the States," he concluded.

Capt. R. A. Street, Jr., has been transferred from Randolph Field, Texas, to the Air Depot Training Station at Albuquerque, New Mexico, whence he writes of his work with interest and enthusiasm. He expects to return to Vicksburg on furlough in December.

Book Review

You will read the following review with much interest and the book also which you will certainly want if a copy is available. This review is by Dr. W. A. Evans. Dr. James H. Hutton is one of the really great men in medicine in America. He has appeared on the program at the Mid-South and also on that of the Northeast Mississippi Thirteen Counties Medical Society.

War Endocrinology

James H. Hutton, M.D., Chicago Illinois.
Privately printed by The Wayside Press,
Chicago, Illinois, 1943.

In no other field of medicine has there been a greater advance in the last forty years than in endocrinology. That the endocrine glands must profoundly affect the human blood stream has been known for a long time or at any rate has been accepted as probable, but not proved. The glands which discharge through ducts might be more readily studied but they could not be so important as those whose secretions go straight into the blood stream. But it was not easy to get the proof. Then new methods of investigation were developed and that proof began to pile up. Quickly an enormous amount of information was accumulated about the pituitary, the thyroid, the adrenals, the sex glands, the parthyroid, the thymus and the pineal and the so-called ductless gland functions of the duct glands and especially those of the gastro-intestinal tract, information about these glands, when normal, when diseased, and the several methods of treating their disorders.

This information was so often highly technical; it accumulated with such rapidity it was so difficult to separate from information about allied subjects that the general practitioner, the man who sees the cases in their earliest stages, finds himself in great confusion. The author has written this book to help the general practitioner who suffers from just these difficulties.

In his opening sentences Dr. Hutton writes that in twenty years since he became interested in endocrinology he has been increasingly indebted to the medical profession in general and to the members of the Illinois State and Chicago Medical Societies in particular, "that this book is written and distributed as a gesture of acknowledgement of that obligation."

From it, the general practitioner can learn of the significance of the symptoms of endocrine disorders and what can be done in diagnosis and treatment with the laboratory equipment and the facilities for treatment that are available to him. In the selection of material to be presented Dr. Hutton shows good judgment based on a broad experience and knowledge in evaluating the practical and the speculative as well.

The general practitioner who reads this book in reflective mood will know when and how to act and what responsibility to carry and what to shift to other shoulders.

Acknowledged recognition of the help of physicians individually and through medical societies in relation to books and authors is unusual. Dr. Hutton's method of responding to this type of obligation is unique.

To the writer of this review no other part of the text has been so informative as that which deals with the relations of the several ductless glands to each other and to the body as a whole especially in certain diseases.

Deaths

DR. PHIL RUSSELL POLK

Dr. Phil Russell Polk, 64, physician of Morgan City, died suddenly early in October at his home, following a heart attack. Funeral services were held Wednesday at 2:00 o'clock at Society Hill Baptist Church in Jefferson Davis County.

Dr. Polk moved to Morgan City 23 years ago. A native of Oakvale, he was a Mason, and during World War I served as captain in the 155th Infantry Medical Corps. He was graduated from Grant University, Chattanooga, Tenn., in 1901.

He is survived by a daughter, Mrs. Sarah Wade Bolton, Morgan City, and a granddaughter, Phillis Bolton. Five brothers and three sisters also survive, Dr. W. S. Polk, Union; N. T. Polk, Athens, Ga.; O. R. Polk and B. N. Polk, Picayune; E. Knox Polk, Oakvale; Mrs. L. P. Taplett, Jacksonville, Fla.; Mrs. G. G. Grovin Water Valley, and Mrs. W. P. Moss, Grenada.

DR. W. E. DENMAN

Greenwood, Mississippi
October 11, 1943

Dr. W. E. Denman, for more than sixteen years a most active member of the medical profession of Greenwood, believed deeply in his calling in the relief of human suffering, and, in his quiet and unassuming manner practised those principles in his everyday life. He derived his greatest pleasure in the helping of others. His was a clean life. His honesty, sincerity and chastity were unquestioned. His most versatile ability and congenial disposition were outstanding among his colleagues. The immensity of his charitable work is a living monument to his deep feeling of concern for his fellowman.

Whereas, Dr. Denman has reached the end of his earthly pilgrimage and finished his earthly labors, and

Whereas, his presence, his service, his wisdom and his congenial associations will be sorely and keenly missed by his co-workers, therefore

Be it resolved that we record with sincere regret and profound sadness the sudden passing of this honorable gentleman from our midst, that we hereby express to his bereaved family our sincere sympathy, and be it further

Resolved that a copy of this memorial be spread upon the minute books of the staff of the Greenwood Leflore Hospital and that a copy be sent to his most estimable family.

Respectfully and sincerely submitted,

The Staff of Greenwood Leflore Hospital
Committee on Resolutions

Dr. George Baskervill, Chairman
Dr. R. B. Yates
Dr. F. M. Sandifer

DR. EDGAR F. CROWTHER

Services for Dr. Edgar F. Crowther, retired Yazoo County physician, were held October 22. He was 85 years of age.

A native of Neshoba County, Miss., he received his medical degree at Louisville, Ky., and took postgraduate work in eye, ear, nose and throat work in New York.

Surviving are five sons, Eugene, John and Charles Crowther of New Orleans; Albert Crowther of Murfreesboro, Tenn., and Walter Crowther of Oakland, Calif.; two daughters, Mrs. Mittie Mitchell and Mrs. Minnie Seeley of New Orleans; and a half-sister, Mrs. Mollie Williams of Philadelphia, Miss.

DR. W. R. HOLLADAY

Dr. Walter R. Holladay, 48-year-old prominent Meridian physician, died at Riley's Hospital October 19 following an illness of several months.

Born at Oak Grove in Kemper County, Dr. Holladay was the son of the late Dr. and Mrs. W. W. Holladay. He was an honor medical student at the University of Mississippi and Tulane University, where he received many other scholastic distinctions. Dr. Holladay was known as one of the state's finest diagnosticians and heart specialists.

In World War I, prior to his graduation from the school of medicine, he served as a medical officer for the Army as senior interne at Touro Infirmary, New Orleans.

Surviving are his wife; a daughter, Marjory; two sons, Walter Robert Holladay, naval medical student at the University of Mississippi, and Eddie Holladay of Meridian; three sisters, Miss Ada Holladay, Meridian High School librarian, Mrs. W. E. Curtis of Meridian and Mrs. Frank Hulett of Greenwood, Miss., and a brother, Dr. P. E. Holladay of Meridian.

DR. PETER W. ROWLAND

Dr. Peter Whitman Rowland, professsor of pharmacology and field director of the Rowland Medical Library of the University of Mississippi, died in his sleep October 14.

With Dr. Rowland at the time of his death was the only surviving member of his immediate family, his daughhter, Miss Mary Victoria Rowland.

Born in Oakland, Miss.

Dr. Rowland was born at Oakland, Miss., February 25, 1861, the son of Dr. William Brewer Rowland and Mary Judin Bryan Rowland. He was garduated from the old Memphis Hospital Medical College and received his M.D. degree from that institution in 1882. After completing his training he began practicing in Coffeeville, Miss., and in 1889, during the yellow fever epidemic, moved to Oxford.

He became a member of the faculty of the University Medical School in 1903. From 1908 to 1925 he was University Hospital physician.

Among the honors that came to Dr. Rowland from colleagues were the conferring of a fellowship in the American College of Physicians; presidency of the Mississippi State Medical Association, North Mississippi Seven Counties Medical Society, and MidSouth Postgraduate Medical Assembly.

Library Named for Him

One especially significant honor came to him in the naming of the Rowland Medical Library of the University of Mississippi for him. The Medical Library had met with indifferent success until 1936, when it received $3000 from a special appropriation made for the medical schools. By the spring of 1937 the library was ready to meet most of the needs of medical school students. Much of the expansion of the library had been due to his active work as field director.

Probably the greatest single contribution Dr. Rowland made to science was his discovery of the value of the deeply implanted use of oxygen in cases of lobar pneumonia. On May 12, 1942, the Mississippi State Medical Association awarded him a certificate of recognition "for the first clinical use, in 1903, of therapeutic oxygen by catheter deeply implanted in the nasopharynx to mitigate the anoxia of lobar pneumonia, wherefore, he merits this recognition of priority for such an accomplishment."

Dr. Rowland was preceded in death by Mrs. Rowland two years and by his son, Dr. Peter Whitman Rowland, II, of Memphis, only one year. Both of their medical libraries are part of the University library.

Also surviving are six grandchildren Peter Whitman Rowland, III, of Memphis; Mrs. Morgan Roseborough of Fort Benning, Ga.; William Rowland of the Army now overseas; Herron Rowland; Mrs. Harry Bratton and Mrs. Scott Black of Oxford.

Dr. Rowland was a member of the Presbyterian Church, U. S. A.

Services were conducted at his home by the Rev. F. M. Purser of the Baptist Church, assisted by the Rev. Gayle Beanland of the Presbyterian Church, U. S. A., and the Rev. J. E. Wallace of the Presbyterian Church. Burial was in the St. Peter's cemetery.

DR. W. W. DIAMOND

Dr. Wright W. Diamond, aged 64 years, died at a Magee hospital September 13 at 10 o'cclock, after an illness of only a few days.

Dr. Diamond had lived in Magee for the past ten years, and was owner of the Magee General Hospital. He practiced medicine in Florida and Jackson, Miss., before coming to Magee. While in Jackson he served as head of the Charity hospital.

Dr. Diamond held membership with the Southern Medical Association, the Mississippi State and Central Medical Societies. He was a Mason, a member of the Scottish Rite and also the Lions Club, and an honorary member of Boys Town (a national boys' club.) He graduated from the University of Florida and from Vanderbilt University.

Survivors include his wife; three sons, Captain W. W. Diamond, Jr., serving with the armed forces in Australia; W. D. Diamond, medical student at the University of Tennessee, and Donald Diamond, of Magee. Two sisters survive, Mesdames Viola Mayo and Elizabeth Grimes of Pensacola, Florida.

FOR SALE: Portable x-ray machine, suite of office furniture, and typewriter. Mrs. M. L. Montgomery, Louisville, Miss.

FOR SALE—Modern 30-bed hospital at Union, Miss., building and equipment thoroughly up-to-date. Represents $60,000 investment, but will sell at bargain. Still open but no surgeon in town. Capt. Earl L. Laird, M. C., U. S. Army, Camp Gordon, Ga.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Vicksburg.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments.

SURGERY

"ANESTHESIA OF THE SYMPATHETIC NERVES"; editorial by Alton Ochsner, Anesthesiology, volume 4, number 3, page 301 to 304, may 1943.

The importance, diagnostic and therapeutic, of blocking of the sympathetic nerves by means of procaine is discussed by the author. The procedure is considered of immeasurable value in diseases of the peripheral arterial system. Ochsner and his associates have long felt that vasospasm represented the chief danger in sudden blocking of one of the major vessels. They emphasize, as they have previously emphasized, that in a given peripheral arterial disease, the prognosis and therapy depend in general upon the amount of vasospasm. Obviously since vasospasm can be relieved by appropriate sympathetic nerve blocking, entities presenting this as a major feature are those that offer the best prognosis and are most amenable to this form of therapy.

The value of sympathetic block in the treatment of conditions ordinarily termed "causalgia" is discharged and the term "sympathalgia" is suggested as being more descriptive. The explanation of the benefit said to be achieved by sympathetic nerve block in patients having causalgia or sympathalgia leaves much to be desired, although it must be admitted that the author and his colleagues have presented in other contributions to the literature, an impressive array of patients whose clinical histories certainly indicate that improvement did follow blocking of the nerves.

Ochsner remarks that anesthetization of the sympathetic ganglia has been most valuable in the treatment of thrombophlebitis. A large series of patients suffering from this malady, all of whom would presumably have resisted the usual forms of therapy previously employed, is cited, and 90% of this group obtained permanent relief from pain following a single anesthetization. Sixty-five per cent of the group reported had no fever within forty-eight hours after institution of therapy; 24% within three to five days were relieved, and 7% were relieved in from six to eight days. In only 4% of the patients did fever last longer than eight days, and the edema had completely subsided within four days in 56% of the patients; in from five to eight days in 32%, and in from nine to ten days in 8%, and in eleven to twelve days in 3%. So remarkably successful was the procedure that 62% of the patients were discharged from the hospital cured within four to eight days after institution of the therapy, and an additional 19% left the hospital from the ninth to the twelfth day, and only 10% remained in the hospital more than twelve days. Certainly the results achieved in this series of patients is vastly superior to that expected, or had, with the older methods of rest, application of ice, et cetera. The author offered a satisfactory explanation of the excellent results achieved in this particular disease by this particular mode of treatment.

The very real danger existing in induction of more prolonged anesthesia of the lumbar sympathetic ganglia by the use of alcohol and other agents is again commented upon and the author concludes that an alcoholic block of the lumbar sympathetic ganglia should only be employed with caution, and that alcoholic block of the cervical dorsal sympathetic ganglia should be employed under any circumstances.

PEDIATRICS

"Evaluation of the Dangers of Repeated Administration of Sulfadiazine and Sulfathiazole in Children — Herbert W. Fink and James L. Wilson—Journal of Pediatrics, 22:513 (May) 1943.

The authors state that with the widespread administration of the sulfonamide drugs, studies of untoward reactions become of great significance. The increased use of these drugs for very minor illnesses and even for prophylactic purposes makes crucially important the evaluation of the risks of 'acquired sensitivity.'

It has been stated that the occurrence of an immediate reaction, that is, a febrile reaction within the first day, almost invariably means that the patient has had previous contact with the drug. It is obvious that if the risk of such sensitization of a patient is considerable, the use of this extremely valuable therapeutic agent for minor illnesses or for prophylaxis may be quite unjustified, since it may prevent its lifesaving effect in future emergencies.

The purpose of this communication is to report an investigation of the incidence of acquired sensitivity in children.

In almost all cases the dosage was ½ grain per pound initially, followed by a dosage of ¾ to 1 grain per pound for each 24 hours during the course of administration.

There is sometimes doubt as to the significance of fever occurring during treatment with the sulfonamides, and it becomes difficult to determine whether an observed fever is a result of the infection being treated or is actually a reaction to the drug. For the purposes of this study, the writers have included questionable cases as drug reactions.

"Results.—Seven of the 177 children studied (4 per cent) were found to have a febrile reaction during the second administration of the agent, three with sulfathiazole and four with sulfadiazine. Only one of the reactions occurred in the group of children who were given the drug for study purposes.

"Of these seven patients, none developed the typical 'immediate' febrile response which has been described, and none developed any rash. One developed fever at the close of the second day, the others on the third, fourth, fifth, seventh, fourteenth, and fifteenth days respectively. In two of these the temperature fell to normal within two days, although the drug was continued for several days more. In the others the fever subsided only after the drug was stopped. Two of the patients developing a febrile response were given a third course of the drug. No reaction occurred in either child.

"In the small series of five children who had shown reactions during the first administration of a sulfonamide and were given the drug a second time, two had no reaction, but the remaining three developed an immediate type of febrile response with fever and rash within eight hours after the initial second dose. One of these latter cases is interesting in that despite the rather severe initial second action, the drug nevertheless was continued for four days. The child's temperature remained elevated on the second day but was normal thereafter. He showed no other ill effects.

COMMENT

The occurrence of seven reacting cases in 177 receiving a second course of sulfonamide therapy gives an incidence of 4 per cent, which is within the 2 to 10 per cent generally reported for reactions occurring during initial treatment. There is, therefore, little evidence of an increased incidence of reactions during a second course, and only the one patient who developed his reaction as early as the second 24 hours after readministration might be considered.

State Board of Health

Felix J. Underwood, M.D.

PROGRESS IN WARTIME CONTROL OF VENEREAL DISEASES

One of the most acute problems arising out of the war has been the control of the spread of the venereal diseases. Long recognized as of prime importance to efficient military effort, precautions were taken early to institute effective control measures. The program already under way was explained to meet wartime needs and problems. Activities were greatly increased in the state's extensive clinic program, with several hundred private physicians coöperating on a part-time basis in its operation.

The most recent development in the control of venereal diseases in the state has been the establishment of three treatment centers where cases can be isolated during the period of infectivity as well as treated under the accepted rapid methods now available. The centers are located at Richton, Meridian, and McLain. The first two are fully equipped and operating, and the one at McLain will be ready as soon as quarters for the staff can be completed. With these new centers functioning, it is expected that there will accrue some real achievement in the attack on this vital Mississippi health problem, providing as they will isolation and treatment for an increasing number of cases of infectious syphilis and gonorrhea.

Since the centers began in April. 1943, there have been admitted 541 patients at Richton and Meridian—418 at the Richton center and 123 at Meridian. Of the total admitted, 322 were white and 218 were colored. Two hundred and one of the patients had syphilis, 454 had gonorrhea, and 114 had both syphilis and gonorrhea. At the Meridian center 34 cases of early syphilis have completed the five-day intravenous drip treatment. The other cases were given the ten weeks' intensive treatment.

The number of patients discharged from the two centers totaled 409 as of October 19. Segregating these patients until a cure or a state of noninfectiousness was effected is certain to have prevented spread of many infections to military personnel and civilians. As the success of the program grows, its benefits will undoubtedly be felt by many communities, the state and the nation.

The program was instituted primarily as a war emergency measure to suppress spread of the venereal diseases by infected, promiscuous women to military personnel. Contrary to some expectations, the typical patient admitted to the centers has proved not to be the hardened prostitute. Instead, the majority of the patients are young, immature girls of high school age, stranded wives of service men, or rural girls who have failed to cope properly with the social restlessness of defense centers and life away from home. The social causation of their delinquency and venereal infection has led to a well-rounded program of rehabilitation conducted with the coöperation of the State Department of Public Welfare and the State Department of Vocational Education, to which these girls have responded well. All patients are interviewed and those who need and want help are provided guidance. By personal counseling, vocational training, and job placement, many of the girls are finding their way back into some useful channel of endeavor and are able to throw off in some measure the shackles of economic dependency and social degradation so often responsible for the vicious chain of events leading to prostitution and venereal infection.

* * * * *

Instruction in Laboratory Diagnosis of Malaria

A school of instruction in the laboratory diagnosis of malaria was conducted at the State Hygienic Laboratory for a two-week period, October 18-31, to provide an opportunity for technicians of the state to acquire precision in the diagnosing of this most prevalent of all world diseases. The course was directed by Miss Aimee Wilcox, whose reputation and work with the United States Public Health Service as assistant technologist is well known. Intensive study of the life cycle of the malaria parasite, its identification as to type and stage of development, the preparation of strains, and preparing of blood specimens for laboratory diagnosis were well covered by this course. A number of hospitals in the state were represented among the enrollees as were the laboratories of the Jackson Air Base and the Mississippi Ordnance Plant.

The war in which we are now engaged has been described as a technician's war, the winning of which is dependent in large measure upon precision in the technics of medicine and research as well as in strategical operations on the battlefield. Taking advantage of such courses as this one on malaria diagnosis reflects a desire on the part of the participant to progress and to contribute to the winning of the war and to better public health.

* * * * *

Phenomenal Reductions from Certain Causes of Death in Mississippi

The yearly record of deaths from typhoid fever is one of the best barometers of the progress of failure of a public health program. Applying this measure to the health work in Mississippi over a period of 27 years, it is gratifying to observe the tremendous progress made through the institution of public health measures.

During the year 1916, there were reported 668 deaths from typhoid fever as compared to only 22 in 1942. This is a reduction of 96.7 per cent and undoubtedly reflects a well-rounded program of sanitation of food, water, milk, together with insect control, coupled with an awakened public health conscience among the people of the state.

During the 27-year period in review, there was a 94.1 per cent reduction in deaths from malaria—another disease of exceedingly high prevalence in the early days of public health. While not altogether under control even as yet and still presenting numerous obstacles, progress can be observed and it is hoped that in the not far distant future it will be among those diseases listed as "conquered."

There have been many gratifying reductions of disease incidence: Diphtheria has been reduced 68.8 per cent during this period; pellagra 86.3 per cent; tuberculosis 58.4 per cent; and dysentery 68.7 per cent.

In contrast to these reductions, the same period reflects increases for certain diseases for which control methods are limited. For instance, in 1941 there were 1186 deaths from heart disease reported while in 1942 this figure climbed to 3169, representing almost one of every six deaths reported from all cases combined in the state. Cancer mortality increased from 554 reported in 1914 to 1537 in 1942. Undoubtedly there must be increasing attention given to research on these two prominent causes of death together with other diseases of advancing years. Health education will be of some value as a preventive measure, but the ultimate hope for complete control or eradication of these diseases lies in the discoveries which will likely some day emerge from the research laboratories.

* * * * *

The Mississippi Public Health Association will hold its seventh annual meeting in Jackson December 9-10, according to Dr. A. L. Gray, secretary-treasurer. Dr. Gray reports that the executive committee deems it particularly urgent to hold the meeting this year to give public health workers the opportunity to discuss and hear discussed wartime public health problems. An interesting program is being prepared for the two-day session which it is believed will prove profitable and helpful to all workers. President of the Association is Dr. R. N. Whitfield.

Woman's Auxiliary

President	Mrs. H. C. Ricks	Jackson
President-Elect	Mrs. L. J. Clark	Vicksburg
First Vice-President	Mrs. V. B. Philpot	Houston
Second Vice-President	Mrs. Henry Boswell	Sanatorium
Third Vice-President	Mrs. W. H. Anderson	Booneville
Assistant	Mrs. Stanley Hill	Corinth
Fourth Vice-President	Mrs. R. B. Caldwell	Baldwyn
Recording Secretary	Mrs. George E. Riley	Jackson
Treasurer	Mrs. J. D. Simmons	Cleveland
History and Archives	Mrs. Harvey Garrison, Sr.	Jackson
Parliamentarian	Mrs. W. C. Pool	Cary

MEDICAL AUXILIARY BEGINS YEAR WITH BEAUTIFUL TEA

Initial meeting of the 1943-44 season of the Woman's Auxiliary to the Central Medical Society was in form of a delightful tea last month in the home of Mrs. H. C. Ricks on Pinehill Drive, Jackson, Miss.

Mrs. A. L. Gray, the new president, presided over the meeting and introduced the other officers and committee chairmen who were hostesses for the afternoon.

Plans were made for "Doctors' Day," and a résume of the year's work was given.

Mrs. H. C. Ricks, president of the State Medical Auxiliary, brought a message from the national president urging specific work for the auxiliary.

The following were hostesses: Mrs. A. L. Gray, Mrs. H. C. Ricks, Mrs. T. M. Moore, Mrs. P. R. Greaves, Mrs. I. C. Huggins, Mrs. J. O. Segura, Mrs. Wildredge Thompson, Mrs. George Owen, and Mrs. Ben Walker.

Auxiliary members present were Mrs. John Harter, Mrs. Ewing Gordin, Mrs. Gayden Ward, Mrs. Robert McLean, Mrs. Noel C. Womack, Mrs. W. R. Bethea, Mrs. H. F. Magee, Mrs. Robert B. Price, Mrs. George E. Riley, Mrs. Paul T. Erickson, Mrs. J. P. Wall, Mrs. N. R. Currie, Mrs. Walton Lispscomb, Mrs. Brister Ware, Mrs. Lauch Hughes, Mrs. L. C. Herrington, Mrs. Felix J. Underwood, Mrs. J. T. Weeks, Mrs. B. J. Marshall, Mrs. T. W. Kemmerer, Mrs. J G. Thompson, Mrs. Harvey Garrison, Mrs. Harvey Garrison, Jr., Mrs. C. H. Hegwood, Mrs. Lawrence Long, Mrs. Temple Ainsworth, Mrs. N C. House, Mrs. Wayne L. Ritter and Mrs. David Wilson.

Guests from Mississippi Ordnance plant were Mrs. Allen L. DeCamp and Mrs. John W. Griffes, from the Jackson Army Air Base, Mrs. M. David Berk, Mrs. Norton McKenzie and Mrs. Everett H. Tomb; from Mississippi College Mrs. Homer L. Howard; from the Prisoners of War Camp, Clinton, Mrs. Raymond Harris, Mrs. Harold Bullin, Mrs. Ed Weinman, Mrs. John Cotton and Mrs. R. R. Pliskin; from Foster Hospital, Mrs. Sam Parker, Mrs. J. Emerson Noll, Mrs. R. B. Hitchmann, Mrs. J. E. Lamberth, Mrs. Collins, Mrs. Horace T. Greene, Mrs. Dale F. Johnson, Mrs. H. J. Mitchell, Mrs. C. W. Lash, Jr., Mrs. M. W. Lathram, Jr., Mrs. H. P. Schwartz, Mrs. Charles P. Hammond and Mrs. Edmund Horgan.

These guests represented auxiliaries from about ten different states.

The next meeting will be a tea in the home of Mrs. Lawrence W. Long.

KNOCK!
KNOCK!

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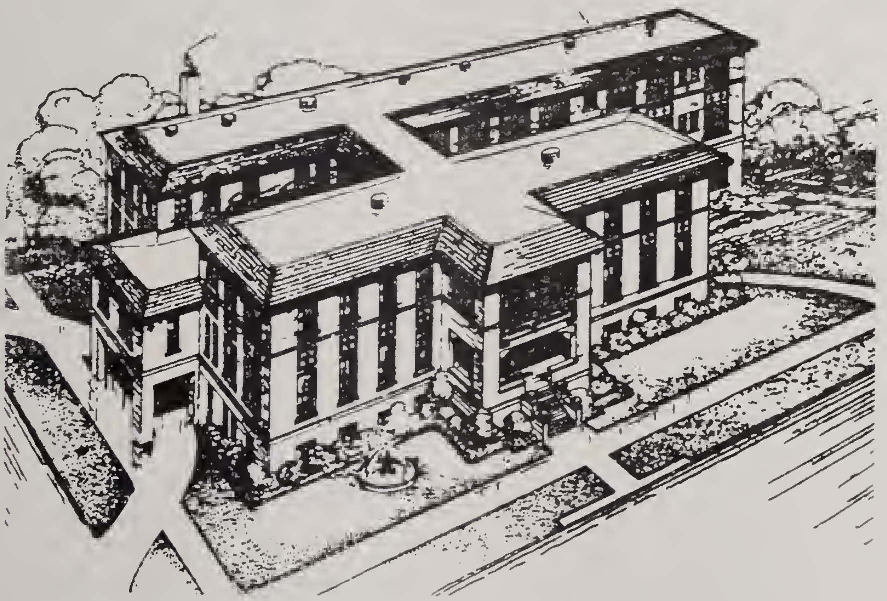

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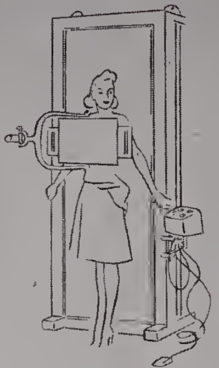

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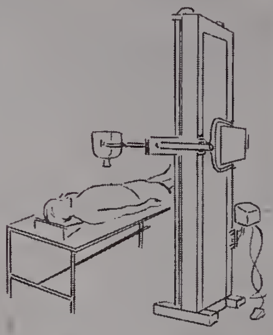

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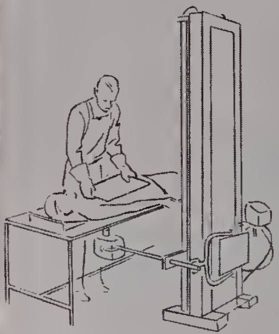

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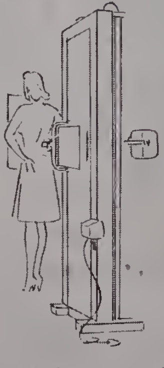

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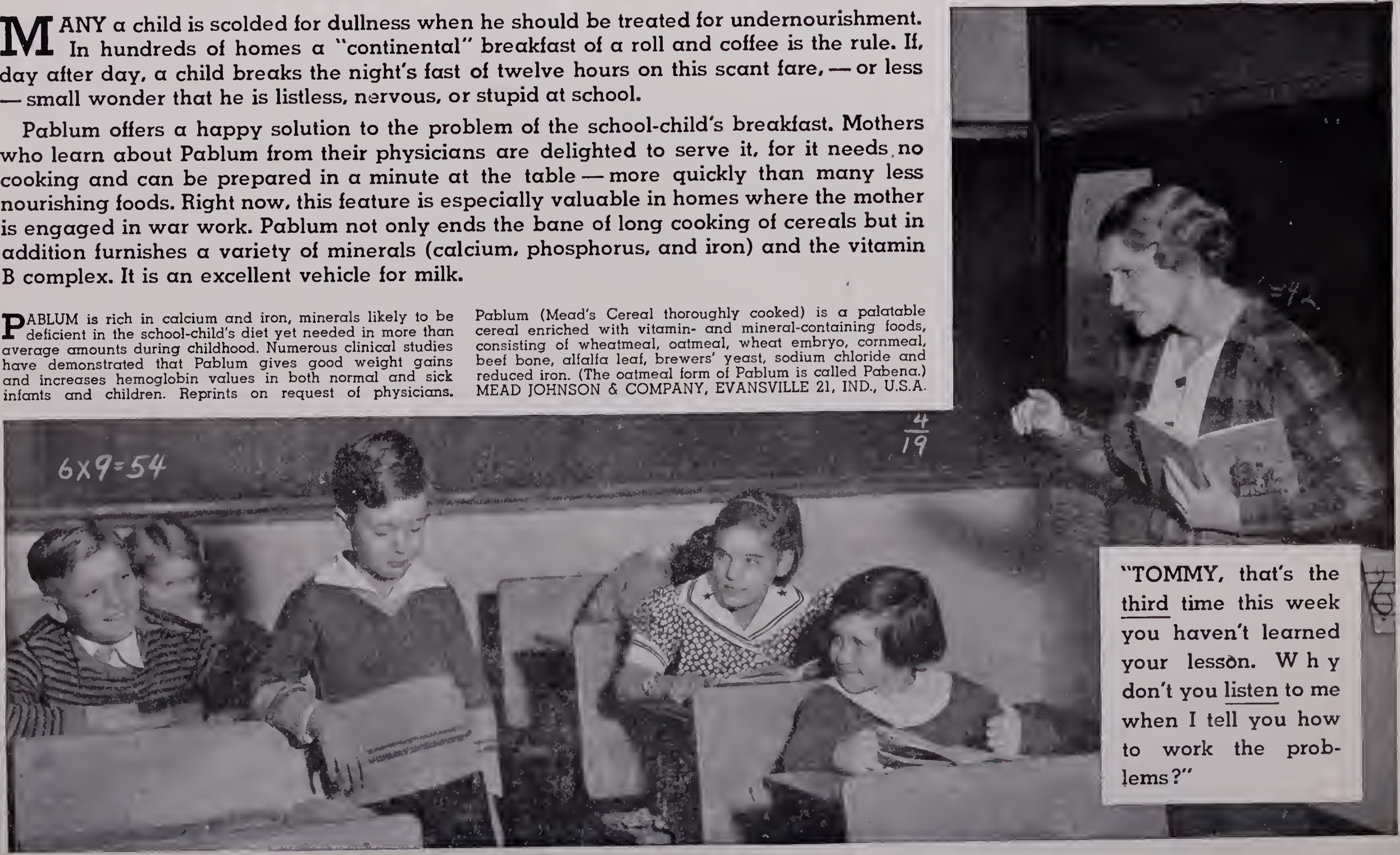
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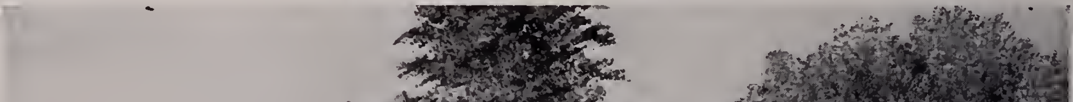

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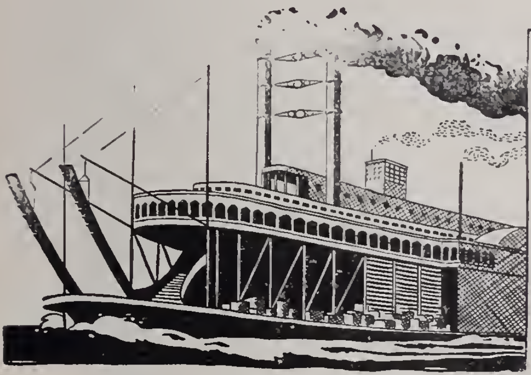

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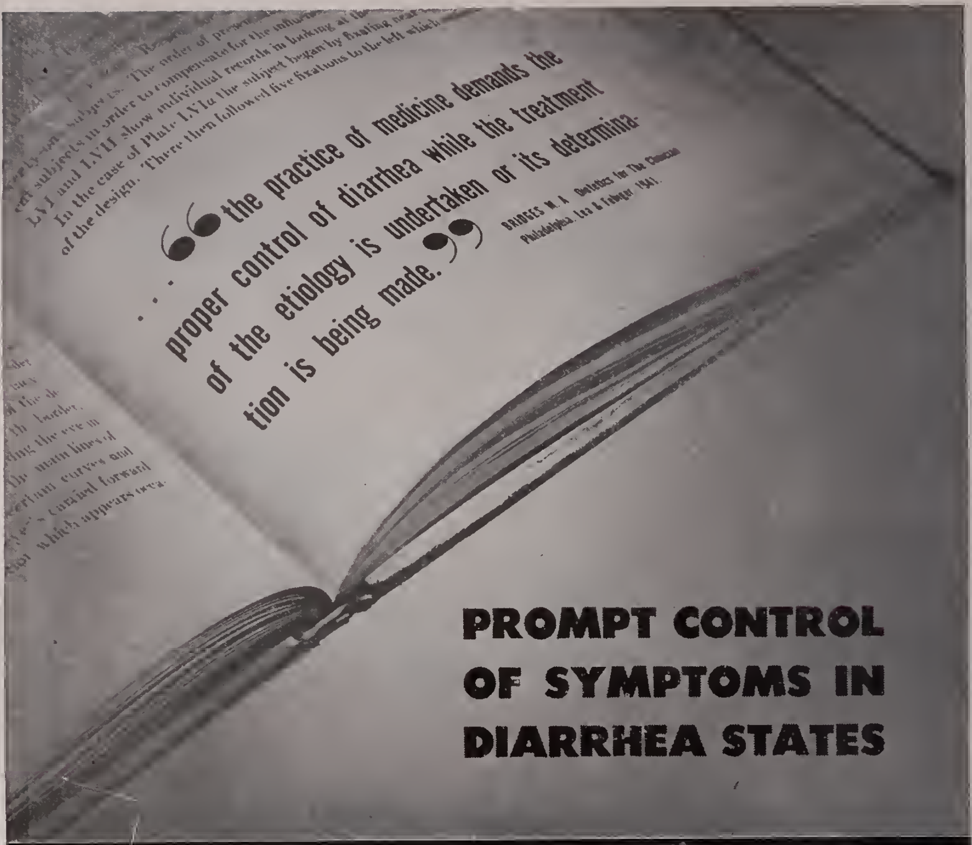

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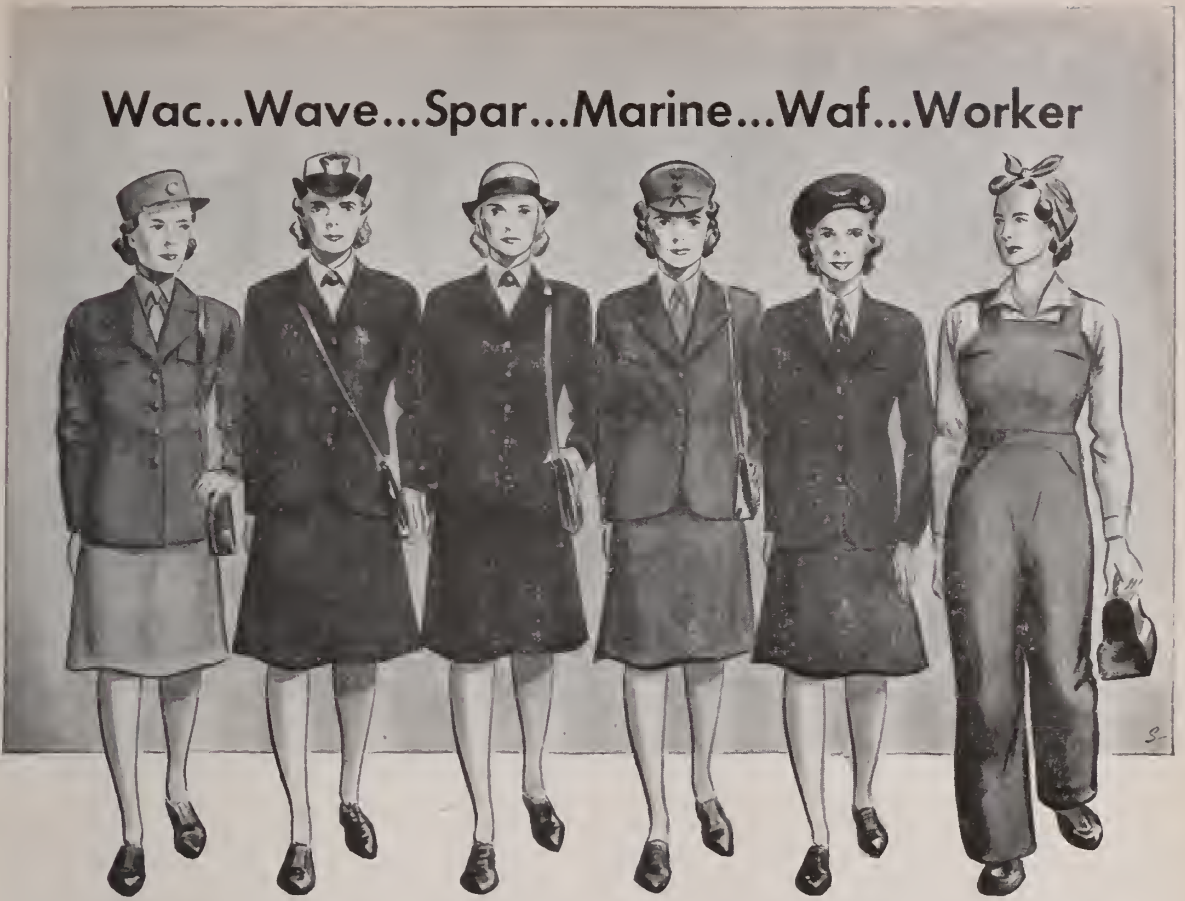

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DECEMBER... the star of Bethlehem and the bombs of Pearl Harbor... the Prince of Peace and the god of war ☆ Christmas will have little meaning to the thousands of physicians who serve their country and perhaps to thousands more who strive to carry on at home. There is little time for exchange of pleasantries in the grim business of winning a war ☆ But the Christmas Season will come again when the forces of evil are dead—when man again will do unto others as he would have done unto him.

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Coronary Artery Disease*

L. C. SANDERS, M.D.
MEMPHIS, TENNESSEE

DISEASE of the coronary arteries is the most common form of heart disease and is the leading cause of death after the age of fifty years. Sclerosis of the coronary arteries is invariably associated with similar changes elsewhere in the body, and is frequently a part of a general involvement of the arterial system. The heart, brain and kidneys are most subject to impairment from circulatory changes.

ETIOLOGY. It has always been a source of mystery as to why a person in apparently normal health should develop a cardiac disability or die suddenly with heart disease. It is now known that arteriosclerosis is the chief factor in the production of coronary disease. The degenerative changes in the vessel walls are gradual and may be present for years before the onset of cardiac symptoms. Not until there is some interference with the circulation to the myocardium is the patient aware that something has gone wrong.

What are the factors which produce the sclerosis in the beginning? It is believed that hypertension, diabetes syphilis and the general wear and tear on the system in making a living are the chief causes. In recent years, it has become apparent that a large number of people die of coronary disease who have no evidence of either hypertension, diabetes or syphilis. In fact, many patients most seriously affected have a low blood pressure and no organic disease outside the blood vessels themselves. Thus, one must assume that arteriosclerosis may also be due to an hereditary factor, or to an unknown toxic substance, as suspected in hypertension, or to work, worry, anxieties and nervous strain.

Individuals who do hard physical labor and are exposed to the elements frequently develop an arterial sclerosis early in life. Rarely, however, do they die of coronary disease; though their arteries are of the consistency of pipe stems, they have a normal cardiac reserve. On the other hand, business and professional people who do little physical work are the most frequent sufferers from coronary disease. Lack of physical exertion, therefore, together with insufficient mental and physical relaxation and over-indulgence in food, may lead to a disturbance of the coronary circulation and consequent cardiac disability.

Infection apparently does not play a significant role in the causation of coronary disease. Patients with serious angina pectoris and coronary occlusion may have no demonstrable focus of infection. Further, those who have infective foci are rarely benefited by removal of such foci.

Pathologists have found that autopsies on patients dying of coronary disease invariably reveal arterial sclerosis elsewhere in the body. The heart, however, bears the brunt of the work in keeping the body mechanism going, and is called upon for more extra effort than any other organ in the body. It is not surprising, therefore, that the heart is often first to show the signs of wear and tear of living.

It is well to remember that the cardiac disability in coronary disease is primarily dependent upon an inadequate circulation. Thus, the clinical manifestations are extremely varied, depending upon the extent and distribution of the insufficient blood supply to the myocardium, and whether this is produced by the gradual or sudden closure of one or more of the larger vessels.

For the purpose of discussion, coronary disease may be divided into:

1. Angina pectoris.
2. Coronary occlusion.

ANGINA PECTORIS

The mechanism of angina pectoris has been discussed extensively and many explanations advanced, the most favored being anoxemia of the myocardium, aortitis, and fatigue of the myocardium. Obviously, the pain is definitely related to inadequate coronary circulation.

The blood supply to the various sections of the myocardium, under normal conditions, is ample to meet its needs, even during periods of stress. If the supply is diminished to a certain area, the efficiency of that section is reduced. Thus, this particular area of the myocardium may be overtaxed by a load that is well within the functional capacity of the remaining cardiac musculature. While it is well known that the occlusion of the coronary artery may produce severe pain, it is conceivable that a less disturbance of the blood supply to the same area of myocardium may, during periods of exertion or emotion, cause distress with the same fundamental characteristics, though less severe, and disappear when the cause is discontinued. Therefore, it would seem that angina pectoris and coronary occlusion differ only in the extent to which the function of the myocardium is disturbed. In other words, angina pectoris may be an early manifestation of coronary artery disease, which may later progress to thrombosis, with its serious and sometimes fatal consequences.

---

*Read before the staff meeting of the Northeast Mississippi Hospital, Booneville, Miss., November 1, 1943.

Angina pectoris is occasionally observed in rheumatic heart disease, aortitis, paroxysmal tachycardia, high grade anemia, hyperthyroidism, nicotine poisoning and severe fatigue.

SYMPTOMS.—The typical form of angina is generally known. The clinical manifestations, however, are variable and may be confused with other conditions, or may even be overlooked. In the beginning, there may be no more than a mild uneasiness in the substernal region, a history which may be elicited only by careful questioning of the patient. While the pain is usually regarded as substernal and felt near the level of the third rib, it may be at a higher or lower level. In typical cases, it is transmitted to the left shoulder and often down the ulnar side of the elbow. Occasionally, the pain is felt in the right shoulder area, and in some cases may radiate into the neck, the jaw, or the mastoid region. Not infrequently it is felt over the lower chest and upper abdomen.

The attack may be induced by an added effort of walking or climbing stairs, by excitement, or overdistention of the stomach with a full meal. In some cases, the patient is awakened from sleep by the pain; this, however, usually occurs after an exceptionally fatiguing or exciting day.

The pain in angina pectoris is of short duration, rarely lasting more than a few minutes, and is usually relieved by rest. If the pain lasts more than thirty minutes, a small coronary occlusion should be suspected. Recurring anginal pains should always be considered of serious import and never treated lightly.

PHYSICAL FINDINGS: The physical findings are variable, often being negative. The heart shows no characteristic changes. This fact often leads the physician to a sense of security and he may fail to impress the patient with the seriousness of the disease.

The electrocardiogram may be helpful, but here, too, the findings are frequently not significant. We often have patients referred for an electrocardiogram because the examining physician obtained a history of angina. The negative findings should by no means be considered the final word in the diagnosis of coronary disease. The symptoms should be relied upon to the exclusion of all other factors, however negative they may be.

TREATMENT.—The fundamental consideration in the treatment is relief of the load of the circulatory apparatus supplying the myocardium. It is absolutely necessary to estimate, as far as possible, the heart capacity. If the patient can do a certain amount of work without pain, he is within his heart capacity. If by doing a little more, he experiences pain, he is going beyond this capacity and overtaxing the myocardium. He may walk on a level at a normal rate of speed without discomfort, but walking rapidly or climbing stairs may induce a substernal distress or burning sensation in the chest. Such symptoms indicate that the heart is being taxed beyond its reserve. The index of cardiac capacity, therefore, is that amount of exertion or emotion which does not induce cardiac distress. Patients should be instructed to refrain from unusual exertion, emotion, fatigue, or any other factor which has been found to cause cardiac distress.

Plenty of sleep, shortening of working hours, daily noon rest periods, a simple diet, and avoidance, so far as possible, of the worries and harrassing things of daily living will go a long way toward maintaining a normal cardiac reserve. If sleep is interrupted or difficult, phenobarbital or bromides are indicated. Nothing can so restore heart fatigue so well as restful sleep.

"Moderation in all things" is an old axiom, but remains the most important factor in con-serving the heart capacity and preventing further damage to an already taxed organ. Of the three things people do most, eat, drink and smoke, it is believed more harm is done the coronary arteries from overeating than from alcohol or tobacco. Temperance in all things, however, should be a strict practice.

A few drugs are of value. Nitroglycerine, 1/200 gr., placed beneath the tongue at the onset of angina usually affords quick relief and should be carried by the patient at all times so as to be available for immediate use. Other drugs, such as theophylline and the theobromine may dilate the coronary vessels and promote a better blood supply to the myocardium in some cases, but their general effect is limited and often disappointing. For the relief of intractable pain, when all other methods have failed, surgical section of the sympathetic and paravertebral nerves supplying the cardiac area has proved successful in selected cases. This procedure may relieve the pain, though in no way does it alter the course of the disease in the coronary circulation.

CORONARY OCCLUSION

Since the classical description of coronary thrombosis by Herrick in 1912, this disease has become one of the most important clinical entities in medicine. The myocardial infarct that results from the closure of a coronary artery produces such characteristic symptoms and signs that a correct diagnosis is usually readily made.

Coronary occlusion is the result of advanced sclerosis of the coronary arteries and is the next step in the disease process following angina pectoris. The immediate response of the heart to the occlusion of a coronary artery depends upon several factors, such as the previous state of the coronary circulation, the size of the vessel obstructed, and whether the closure is gradual or abrupt. Many patients withstand the closure of a large vessel without much embarrassment of the heart, whereas in others the heart function is definitely impaired. There are also still others in whom the effect is so overwhelming that sudden death or extreme cardiac failure results. Moreover, if the infarct seriously involves the endocardium, mural thrombi develop. These often involve the right and left ventricles, and there is always the possibility that some may be dislodged and pass into the circulation. When dislodged, they may be carried to any organ of the body, and may cause sudden death in the early days following the occlusion.

SYMPTOMS.—The clinical manifestations of coronary occlusion in the typical form are readily recognized. The distribution, character and duration of the pain, the accompanying shock, the fall in blood pressure, the symptoms and signs of cardiac damage, and the later development of fever, leukocytosis, increased sedimentation rate, and, in some cases, a friction rub, produce a distinctive clinical picture.

Pain is the outstanding and most characteristic symptom. Many patients give a previous history of chest pain or dyspnoea, or both. The onset of pain may be gradual or sudden. During the period of gradual onset, the distress is intensified by exercise, excitement or overeating. In attacks of abrupt onset, the patient is not infrequently awakened in the night by the terrific distress.

The distribution of the pain is the chest, the upper abdomen, one or both shoulders and arms, the neck or the jaw. Or, the patient may have a violent choking accompanied by a sense of impending suffocation. The character of the pain varies from a mild distress to an agonizing, tearing, boring or constricting sensation. The duration of the attack may be hours or days, depending upon the extent of the infarct and the measures adopted for its relief.

Shock, manifested by an ashen color, profuse cold sweat, fall in blood pressure, dyspnoea, cyanosis and feeble pulse, is a characteristic feature of severe occlusions.

The blood pressure practically always falls, either immediately or within a few days after the onset of the attack. The systolic pressure may drop to 80 mm. hg. and there is a corresponding fall in diastolic pressure.

The extent of the dyspnoea is in proportion to the response of the myocardium to the infarct. Respiratory distress and congestion in the lungs are prominently associated with cardiac failure.

PHYSICAL FINDINGS.—There is a great variation in the physical findings in coronary occlusion. During and immediately after an attack there may be little change, though, as a rule, the heart rate is increased. The rhythm is frequently irregular from premature ventricular contractions, the tone is poor, and the sounds distant. A systolic murmur may develop immediately or later. A precordial friction rub is often heard from one to three days after the beginning of the attacks.

The temperature is elevated to an average of 100 to 102 degrees. In more serious cases, it may rise to 104. The leukocyte count rises to 10,000 to 20,000, and the sedimentation rate of the red cells may be abnormally high.

The electrocardiographic findings are often characteristic. One should not depend upon the readings alone, however, but should carefully weigh them with the clinical manifestations. The more significant abnormalities pertain to changes in the R and S-T segments, the T waves and the appearance of a Q wave. Alternations in the character of these changes may vary from day to day. It is often possible to determine the location and extent of the blood vessel involvement by a study of the electrocardiogram. Also, fibrillations and bundle branch block are frequently detected by the electrocardiogram when not revealed by other methods.

PROGNOSIS.—It is generally understood that at least 30 per cent of patients with coronary occlusion die during the first attack or within thirty days thereafter. The remaining 70 per cent may be expected to live from a few months to several years. What are the factors, then, which cause sudden death in some, partial or complete disability in others, and partial or complete recovery in the remainder? Of the factors which influence immediate mortality, age is perhaps foremost. Woods and Barnes[1] showed that the mortality of coronary occlusion in individuals beyond 60 years of age is twice that of those under that age.

Massive infarcts with immediate cardiac failure, as shown by pulmonary edema, pulsus alterans, rapid fall in blood pressure, and cyanosis, usually means death within a short time. A rectal temperature of 104 degrees or above, or a leukocyte count of 25,000 or higher indicates the presence of a large infarct and is an unfavorable sign. Ventricular extrasystoles followed by ventricular tachycardia and fibrillation are ominous symptoms, as they are often the forerunners of immediate failure of the cardiac mechanism. Patients who have the most favorable outlook are those who recover from the shock of the attack within a few days, the fever and leukocytosis return to normal, and the pain subsides.

It is encouraging to note that more recent reports in the literature show a larger percentage of patients recovering from coronary occlusion are returning to useful though limited occupations. This is no doubt due to the longer periods of convalescence required and to a more thorough understanding of the underlying principles of the disease.

In 1939, the committee appointed by the American Heart Association to study coronary disease sent questionnaires to leading cardiologists and teachers of medicine. The overwhelming majority of opinion of these men was:

1. Every person who has sustained a coronary occlusion is not totally or permanently disabled.
2. From 50 to 80 per cent of patients who have recovered from a coronary occlusion may attempt partial or complete resumption of activity.
3. Angina pectoris and congestive heart failure are the most important handicaps to a resumption of activity.
4. Patients who have recovered from a coronary occlusion but who have angina of effort should be treated with special precautions to prevent chronic invalidism.
5. Effort that causes no cardiac symptoms does not shorten the life of the patient who has recovered from coronary occlusion.
6. A return to business or profession from 3 to 6 months after a coronary occlusion, with modification of activity, does not exert an unfavorable influence on the course of the disease, nor does it increase the tendency to further occlusion or shorten life.

Finally, then, it may be said that the immediate prognosis of an individual stricken with coronary occlusion is difficult to predict. As a group, the careful study of the facts does not warrant a hopeless outcome for the patients who have survived the initial attack, but on the other hand, a degree of enlightened optimism is not unreasonable.

TREATMENT.—The management of coronary disease may be divided into:

1. Immediate treatment during the attack.
2. Treatment following the attack.

Confronted with the picture of coronary occlusion, the first consideration is the relief of pain, and second, the control of shock.

Morphine sulfate, gr. ¼ to ½, has been widely and successfully used. Frequently, it must be repeated, as the severe pain is often not controlled in less than one to several hours.

The more recent plan is to give papaverine, ¼ gr. Papaverine not only exerts a powerful analgesic and narcotic effect, but, according to recent experiments, acts as a powerful vasodilator. It is also said to limit secondary vasoconstriction and exert a favorable influence in preventing ventricular fibrillation.

Morphine alone all too frequently entails distressing delay in relief of pain. Protracted distress no doubt influences the degree of shock, aside from influencing the ultimate area of infarction. Among the immediate causes of death, whether during the attack or the period of recovery, are ventricular fibrillation, myocardial failure and pulmonary embolism. The shorter the attack of pain, the less likelihood of these complications, hence the beneficial effect of papaverine followed by morphine.

Patients with coronary occlusion are able to take large doses of opiates without apparent harm. Atropine has been advocated together with morphine to counteract the depressing effect of morphine upon the respiratory mechanism and to promote attenuation of vasodilatation.

The second phase of treatment of coronary occlusion during the attack is concerned with measures to combat shock. Patients with this disease nearly all exhibit some measure of circulatory disturbance. When the infarct is large and pain is severe, the heart is laboring with part of its mechanism out of commission. The means at our disposal to combat this emergency should be used quickly and energetically.

If there is evidence of circulatory collapse with pulmonary edema, aminophyllin, 7½ gr., given very slowly into the veins is one of the best drugs available. It may be repeated at 4 to 6 hour intervals. Later, when the patient's condition has improved, the drug may be given by mouth, 3 gr. every 4 hours.

Oxygen is still one of our most effective weapons for combating respiratory distress. In hospital practice, the oxygen tent is advisable, but experience with intranasal oxygen has shown that this method is also satisfactory and, moreover, is applicable to bedside use in the home. A portable oxygen tank with attached nasal catheter can be easily transported.

When the heart muscle is failing, digitalis is still one of our most effective drugs. It should be given freely, either hypodermically or by mouth, according to the urgency of the need.

The intravenous administration of concentrated glucose is favored by some physicians and condemned by others. The added nourishment provided the laboring heart muscle by glucose is often followed by symptomatic improvement. Thus, if administered slowly, it may be used in selected cases.

The usual cardiac stimulants, such as coramine and metrazol, should be avoided, in that they raise the arterial tension and increase the load of the overburdened heart muscle.

When the attack has subsided and the patient is again comfortable, the real task of the physician has just begun. The patient's future depends upon his complete understanding of his condition and coöperating in the treatment. At the outset, the patient and his family should be told exactly what has happened to his heart. Frankness on the part of the physician not only paves the way for the long rest period which must follow, but it eases the patient's mind to know he has a good chance of recovery provided he follows a strict plan of care.

Physical and mental rest are of vital importance. The patient should remain constantly in bed, not being allowed up for meals or for the daily toilet. The duration of this complete rest depends upon the seriousness of the heart damage and upon the condition of the patient during the first two weeks of convalescence; the usual period is from six weeks to three months. If the patient remains comfortable after the acute attack has subsided, he may begin to sit up at the end of six weeks. If his first few weeks are complicated by angina or dyspnoea, complete rest should be prolonged for several weeks after these symptoms have disappeared.

Relaxation and restful sleep are part of the régime. Phenobarbital, delvinal or embutal in doses sufficient to promote rest and sleep should be allowed.

The diet should be simple but ample to build up the patient's strength. If the patient is overweight, some restrictions should be imposed, though not at the expense of loss of strength. Later, when exercise is begun, the obese patient should gradually reduce until his weight is as nearly as is consistent with health.

Constipation may be controlled with mild laxatives. Enemas tend to fatigue the average patient and may be omitted in favor of other simple methods of promoting bowel function.

Visitors should be forbidden for a while and not allowed at any time if they fatigue the patient or interfere with his routine of rest and sleep.

There are few drugs which have a specific beneficial effect upon the heart tone or strength. Nitrates are contraindicated, as they produce quick vasodilation and may disturb the coronary thrombus and cause interference with its normal absorption. Theophylline or theobromine, 1½ to 3 gr. three times daily, have been widely used. They seem to be of value in the presence of angina, but probably exert little benefit otherwise.

When the patient has completed the prescribed bed rest and is permitted to begin sitting up, it is well to bear in mind that sudden exertion may undo what has been accomplished in weeks of rest. At first, the patient should be allowed to sit on the side of the bed for a very few minutes. This may be repeated twice daily for a few days. He may then sit in a chair by the bedside twice daily for five minutes, the time being increased five minutes each day. If he does well, he may begin to walk about the room at the end of two weeks. Thereafter, the amount of exercise should be gauged by the heart capacity. Any exertion which induces shortness of breath or angina is to be avoided. The patient should therefore stop short of the point at which symptoms of respiratory or cardiac strain appear.

When the patient is able to resume his occupation, he should curtail his hours of work, rest at noon each day, and stop work whenever he becomes fatigued.

When this plan is followed in a general way and every effort made to conserve the heart muscle and build up the cardiac reserve, many patients will be able to resume a large part of their former activities. Needless to say, this in itself is ample reward for the months of patient rest and restraint.

REFERENCE

1. Woods, Robert M., and Barnes, Arlie R.: Factors Influencing Immediate Mortality After Acute Coronary Occlusion, Am. Heart J., 24:4, 1942.

The Nation's Most Valuable Asset and Its Greatest Problem*

HARVEY F. GARRISON, M.D.
JACKSON, MISSISSIPPI

THERE ARE approximately thirty-six million children in our nation. These are the future citizens of the United States. Among them are our physicians, lawyers, engineers, statesmen, ministers and teachers of the future. Among them also are our rank-and-file citizens who form the backbone of any society.

During this war period, it is perhaps difficult for us to look ahead to the time when these children of today will have taken their places; however, there is no more important time to look ahead than today when too many minds are pointed merely to the manifold problems of the day. The thirty-six million children of America are our nation's most valuable asset, and we must realize its greatest problem as well. They are an asset in that they hold the potential power and greatness of our nation; they are a problem in that the care and training which they will receive within the period of childhood will make them and our nation with them superior or inferior.

As a pediatrician I am happy to announce that for five decades or more pediatricians of America have been a potent factor in the promotion of child health and in the dissemination of knowledge pertaining to child hygiene. They have contributed largely to the aggregate of pediatric knowledge, they have stimulated research, they have coöperated effectively in the elevation of the standards of medical education and of practice, and they have encouraged the organization of innumerable agencies dedicated to the betterment of child welfare.

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*President's address delivered at the annual meeting of the Southern Medical Association, November 1943, Cincinnati, Ohio.

Unless the goddess Hygeia is our friend, life is truly a curse to man, woman, and child. We can not enjoy the beauties of nature or man's great works when we are tortured by pain. Therefore, it is important that we guard our baby's health as the most precious jewel of his existence.

I believe from the moment a child is born until it passes from beyond parental control that its physical condition should be given the closest attention. If we are cultivating a grove of black walnut trees for profit or a cluster of rose bushes for beauty, there is no phase of their daily existence we miss.

As we cannot take care of a garden one week and neglect it the next, expecting the weeds to stay away, so with our children, we must guard them constantly. We hope the best for the coming generation. A hope implies a desire and an expectation. A true and genuine hope suggests a sincere responsibility. That responsibility we willingly and cheerfully accept.

The health of children is a responsibility not only of parents, nurses, and physicians but of every person interested in achieving ultimate victory for democracy.

To win the war on land and sea and in the air will bring little reward if in the process the stability and happiness of the future population is jeopardized.

As doctors, perhaps we have been too closely concerned with gross pathology, too little concerned with positive health, which means much more than freedom obvious disease. Other nations are making strenuous efforts to produce a generation fit for war. Surely we need no less a generation physically fit for the pursuits of peace.

Every child is a history of the race beginning again, entitled to a chance to become its best.

Of the thirty-six million children in our nation, it is estimated that about seven million of these are at least partly dependent on relief or public aid in their homes. The latest figures indicate that approximately 250,000 children are in institutions for dependent children, and it is estimated that at least 23,000 children are in state schools for delinquent children. There are approximately 365,000 in need of medical attention, and many others are suffering from conditions which if neglected will result in crippling. Last year in this nation more than 110,000 babies died in their first year of life or one out of every 21 American born alive. Tragic as these figures may seem, they represent a great advance since 1917 when one baby out of every eleven died. Even before 1917, indeed, since the early part of this century, some of the best pediatric minds in this country have attacked the problems of how to help each child become a healthy, well adjusted coöperative member of good society. In spite of all efforts the child remains the nation's most valuable asset and its greatest problem.

Children are the future. They do not simply make it. They are the actual stuff of futurity. To build children is to build the future.

The war has brought a new desire for parenthood to many couples who had previously been indifferent to it. Though the average age of mothers is now much lower than formerly, a sizable number of first babies are being born to couples who have been married five to ten years.

As one 30-year-old expectant mother recently expressed it: "We thought we'd wait till we could own our home . . . then a car . . . but the war has changed our sense of values. Material things don't seem so important. We want something *real* in our lives —something that's all our own."

The task of increasing the armed forces of the nation under the Selective Service law of 1940 has offered an opportunity to evaluate the physical condition of the young men of our nation.

The study of the causes for rejection of these men by the Army may reveal certain trends and possibly indicate certain preventive measures for the benefit of the children of today.

The various causes for rejection for general military service are listed as follows:

	PER CENT
Teeth	20.9
Eyes	13.7
Heart and blood pressure	10.6
Muscles and bones	6.8
Venereal	6.3
Mental and nervous	6.3
Hernia	6.2
Ears	4.6
Feet	4.0
Lungs	2.9
Miscellaneous	17.7

Certain of these defects are conditions that may be prevented, certain ones are remediable, and many represent congenital defects or conditions for which the future holds little hope of improvement until medical science advances, the general economic status improves, education is more universal, or eugenics programs are more forcefully carried out.

The world needs better men and women—good as those of the present generation may be. Let us begin with the young, the boys and the girls, keeping them in health, sobriety, integrity, virtuous manhood and womanhood of the noblest stamp.

We as a nation are rightly concerned today with matters vital to our defense—with ships and armies and airplanes, with new death dealing inventions, with production in defense industries. These things are important, but they deal with the present only. The kind of a country we will have forty years from now depends upon those who are just now starting life. Whether we keep our place as the foremost nation of the world, or whether we recede to an ignoble station; whether we are victorious in battle or whether we are to be overcome by some foreign foe, depends upon the wisdom and the worth of those who come after us. In fact, every issue which is beyond the immediate present depends upon our second line of defense—our American children. The newborn baby comes into the world handicapped or helped by its hereditary background and its maternal environment during pregnancy and labor. The hereditary influences go back through each parent for many generations.

To its ancestors the child must look for the potential qualities with which it begins its existence. From them come the color of its eyes and hair, the shape of its head, its body contours, the type of nervous system with which it is endowed, and all the other qualities by which an individual is characterized. Every child derives from its parents the material from which it is created.

If the man and woman who wish to have a child have been created from sound heritage, if they have been well nourished and protected from the ravages of disease or environment, if their emotional and mental development has been sane, they bring the richest gifts to their child.

In the children of a race lies its hope for future greatness. Let them be well born and well nurtured, given a chance for a normal development during a childhood protected from blighting influences, and they will grow to manhood and womanhood ready for complete participation in, and enhancement of the world in which they live. An attempt to make this possible is our gift to children today.

There is nothing so mysterious about children. If a father is disorderly, his son is liable to be so too. If a mother is quick-tempered, she is liable to have a daughter who has tantrums. Parents usually see in their children a composite of what they were when they were young.

Today there are courses in parent-craft, and there should be. The children of trained parents are said to be more self-reliant, better able to make their own decisions than those of the untrained. They are said to have initiative and enterprise and to be working nearer the limit of their capacity, to be sounder in health, and to be more tolerant and courteous and unafraid.

Parents are learning that the first few years of a child's life are the most important, and a study of the spoiled child problem shows that children do not outgrow early habits as soon as parents think they will. Many of them go through life with these attitudes and then develop mental and nervous breakdowns when they find they are not equipped to meet bravely the vicissitudes and responsibilities of adult existence.

When your child's health is disturbed, growth slows down. When both growth and health are disturbed, development is retarded and your better citizen has been interfered with.

But your child's prospect of becoming a better citizen does not depend entirely on the state of his physical health. Your boy and your girl must learn to adjust themselves to the social and economic conditions that surround them. What would be the good of bringing up a child in perfect health and have him, because of lack of training in the home, develop into a bank robber, a drunkard, or a drug addict.

The ability of your child to adjust himself to the world depends, to a large extent, on the type of training he gets at home, and on the habits that he is taught during his childhood. Every step of the adjustment made by the child requires training.

Home, church, and school should combine in building your child's personality from the point shortly after birth until he has reached maturity. This will require continued efforts to meet the changing needs of the youngster. Raising a child and doing it properly are the most difficult jobs any of us can face. But in the end, there is just about the greatest satisfaction we can know — that of having created a successful citizen.

During these trying times of war, the responsibility of the medical profession is not only burdened with the care of our armed forces, but the civilian population must have adequate medical attention. In no field is this more important than in the care of the expectant mother. Upon her and her offspring rest the duty and responsibility of reconstruction of a better world and a permanent peace. So we must not be content with the progress already made in maternal care but must continue to improve that care till the deaths from maternal causes will be lowered to the irreducible minimum. Until that goal is reached, none of us as physicians will cease our efforts to improve the care of women in child-birth.

"Human life in this country is not held in high esteem if we are to judge by the recklessness with which the lives of mothers are wasted," says Dr. Thomas Parran, Surgeon General of the United States Public Health Service. The mortality figures are appalling—more women dying between the ages of fifteen and forty-five from diseases of pregnancy and motherhood, than from any other, except tuberculosis. The tragedy is more distressing when it is known that many of these deaths are preventable.

Maternity care is what needs emphasis, not prenatal care, not delivery care, not postpartal care. No one phase of care is more important than the other two and all lose value if any one phase is weak, or late, or missing.

Total maternity care—that's it. Total care keyed to fit into and enhance total living provided for all expectant parents in all of America.

At a White House conference on child care it was pointed out that if every woman would consult her physician just as soon as she has reason to think a baby is coming, and at regular intervals thereafter, 10,000 more American mothers would live each year to rear and cherish their children.

We have observed that today's adults enjoy a more abundant life because of even the partial and incomplete health care given yesterday's children. We are now attempting to complete the cycle by smoothing the way for tomorrow's children through intensification of health efforts and providing better preventive care for the parents and prospective parents of today. More and more of tomorrow's children will arrive with a welcome greeting from their parents and with a community ever more ready to use a larger portion of available resources in proving our belief that children are our most valuable crop and that child life is far more worthy of conservation than even our soil, our forests and our oil resources. In fact, conservation might well be our watchword in our consideration of tomorrow's children.

The child of today—the citizen of tomorrow—is going to need all the fortitude, courage, and adaptability of the first settlers to work out a happy and successful existence. What can we do to help him?

As physicians, our first thoughts are naturally devoted to preserving for these children, healthy bodies and normal minds.

The child's health is like the foundation of a new home. It is the basis on which the future structure must stand. Unless the foundation is firmly laid, the completed building will be an unsatisfactory one. Its insecure foundation will make it only half tenable and the upkeep of such a structure will be far out of proportion to that of maintaining a structure erected on enduring principles.

Just as important as preserving the health of our children is teaching them to use their bodies and minds to secure both mental and economic security. I believe that children should be taught to work and to adapt themselves to any situation. The average American child is adaptable and will learn to take care of himself if the occasion arises. In recent years, however, the trend has been to give the child more and more pleasures and to require less and less the assumption of any duties. To give much and expect little is the usual custom of the American parent. This theory may be all right if the conditions the child will face are those that will conform to a familiar pattern. On the other hand, is it fair now to make life for the child a bed of roses when the path to be trod in the future may be covered with thorns instead of rose petals? We should teach him to work. The more anyone is able to do for himself, the better he will be fitted to face any situation in which he may be placed. A gradual realization that changes are taking place is much better for a young mind than the sudden discovery of the fact. Unquestionably, the present younger generation are not as well fitted to face the vicissitudes of life as were their parents. It is not their fault, but the fault of their parents, who want the best for their children and who are putting protective walls around them. Many parents pride themselves on making things easy for their children, and by the very giving and spoiling have wrecked their chances of happiness.

If our nation is to go forward, if this democracy is to survive and lead the world, we must impress our people that we must have the best, the strongest, and the most intelligent boys and girls of any nation. We must see to it that they are born of healthy parents, that they are born in healthy, well equipped scientific surroundings, that they are given the best of medical and nursing care, that they are properly educated, that they be taught to know and respect God and their nation. No nation can stand without these essentials.

Elements of Medical Statistics

II. THE COLLECTION AND ORGANIZATION OF DATA.

SECOND OF A SERIES OF SEVERAL ARTICLES PREPARED AS AN EXTENSION OF DR. HARRISON'S LECTURE COURSE IN BIOMETRY AT THE UNIVERSITY OF MISSISSIPPI.

V. B. HARRISON, M.D.*

BIOMETRY is the mathematical analysis of vital data; in our present case, medical experiences. Unappraised experiences are called "raw" or "crude" data, and this is the material which we propose to treat biometrically.

It is axiomatic that the end result of biometric analysis is no better than the quality of the raw material from which the product is derived. By analogy, a house is no better than the material from which it is constructed; notwithstanding the skill of the workmen and the quality of their tools. No amount of mathematical treatment can purify and refine inaccurate and false observations. Therefore, the prime prerequisite of any biometrical analysis is sound, accurate, and pertinent raw material. The analyst must have a scientific conscience. A true scientist is led by the data rather than leads the data. That is, one should carefully extract the "story" from the data and not dictate the "story" to the data.

It is a truism that one seldom finds more than he is seeking. To get the most out of a problem one should first pose a definite question and then seek the answer in carefully chosen sources of information. In some cases the information may be already available in record form, however in most cases it must be sought out. All conceivable ramifications of the problem should be anticipated so that the collector can obtain the necessary collateral data at the same time that he is procuring the primary data. Nothing is more provoking than to have the initial problem take an unforeseen turn and then not have the information to pursue the newly developed angle of the question in point. Therefore, a little foresight and careful planning will often prevent subsequent regrets.

When the question is carefully studied in advance and properly posed the analyst then must prepare to start collecting the required data. There are three major ways in which biometrical data may be collected, namely, (1) enumeration, (2) registration, and (3) case records. The enumeration method is to count or measure each fact or series of facts at its source. The census procedure is an example of the enumeration method. A modification of this method is the questionnaire. The registration or reporting method requires that the obligated individual furnish the desired information to the collector under prescribed conditions. This method is used by the State Board of Health to collect vital statistical and epidemiological data. The case record method is the one primarily used in clinical medicine. Regardless of the method used the form should be uniform or otherwise the data collected will be incomplete and partially irrelevant. Above all, the form should be relatively simple and it should be answered completely. An incomplete record, if either admitted or rejected, introduces an uncontrolled error into the total data.

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The importance of accurate and complete case records cannot be over emphasized as a source of information. All too often the case records in private practice and in hospitals are shams insofar as their biometrical value is concerned. Medical experience by force of circumstance must be carefully tested accumulative experiences from many sources over many years time. It is almost impossible to pool case records from private practice, but the records of hospitals and the data collected by state boards of health, if accurately reported and carefully tabulated, may and can serve as a great reservoir of medical information.

When data is first collected it is a jumble which must be organized and tabulated before it can serve any useful purpose. The first step should be the assortment of the data according to its major and various minor characteristics. A mass of data can be best handled by transferring the material to some type of punch-card. With punch-cards the data can be assorted mechanically and expediently as many times as it may seem necessary. Thus, multiple information from individual sources can be separated and compiled as individual categories for study. For total information the massed data can be separated in a master table. The master tables commonly used are based upon a dichotomous classification system. Further, limited information which would not require the assortment of the total mass of data collected can be assembled from the accumulated data by using the punch-cards containing the total data. In any event it will be necessary to prepare summary sheets according to the organized plan of study to receive the information collected.

Physicians who are not acquainted with the principles of the punch-cards and the summary tables used in biometrical analysis should call upon the clerk of their local health department (Mississippi) and have her demonstrate the use of these items in local health work. The forms used by the local health department for vital statistics are recommended not as paragons of perfection but as examples of simple, efficient, and relatively fool-proof methods in elementary biometry.

To illustrate the aforesaid principles, suppose that we consider the problems attendant upon studying the appendicitis experience of a small hospital. The first thing which we must do is to define and delimit the subject of our anticipated study. Secondly, we must accurately define and prescribe the limits of our problem; that is, ask ourselves specific questions. The question posed must be capable of being answered. If it is not, then it is not really a scientific question at all, and time will be saved by simply ignoring it. Thirdly, we must organize a system for the collection and assortment of the various categories of the data which have a bearing on our problem. Fourthly, we must subject the assorted data to biometrical analysis, and finally, we must draw our conclusions from the results of our analysis. It is readily seen that every step is a procedure in logic, and only in the fourth step does mathematics enter the picture.

First, we must define and delimit our subject. Our general experience informs us that acute suppurative appendicitis is a rather common pathological entity with fairly definite clinical manifestations, and a condition which is rather widely recognized. However, appendicitis in a surgical sense is a broader and less definite condition. The potential dangers from acute suppurative appendicitis are so well recognized that diagnostic procrastination in suspected cases is never condoned and seldom practiced. Therefore, it is the accepted surgical practice to give every suspected case of appendicitis the "benefit" of an appendectomy. It follows, then, that many "surgical appendicitides" are not necessarily cases of pathological appendicitis.

If our study of appendicitis is to have any value, we must select for consideration only true cases of appendicitis, regardless of the preoperative diagnoses and postoperative impressions. That is, we should admit to the study only confirmed cases of appendicitis, and this means pathologically proved cases from surgical specimens and autopsies. Of course, it follows that the integrity and ability of the pathologist is assured. In view of the fact that so-called "chronic appendicitis" is not a generally accepted clinical entity with associated important pathological significance, we should exclude from our study all cases diagnosed as "chronic appendicitis," "chronic fibrosing appendicitis," etc. In other words, we must attempt to establish unimpeachable criteria for the selection of our data if we wish to avoid "building our house" from defective material. Of course, if our object is the study of "chronic appendicitis," then the reverse situation holds true.

Secondly, we must accurately define and prescribe the limits of our problem. Just what do we want to know, or what do we hope to learn, about appendicitis in our limited experience with the condition? Are we interested only in a general appraisal of our experience, or is there some specific aspect of the experience which we wish to investigate? It may be that we have obtained some general clinical impression from our general experience and we wish to establish the significance, if any, of this impression. If a general appraisal is our objective, then we should set some limitation on the scope of our investigation. As a general rule, the material available for study will usually set the limits of the study; frequently far short of the desires of the investigator. If the investigator wants very good and complete information, it would be well for him to set up a system in advance of the anticipated study. This is especially true if the interest is in some specific phase of the problem.

When the objective of the study is established then the problem should be organized. This is perhaps the most important and the most critical step in the whole study. We should ask ourselves certain definite questions about appendicitis; questions whose answers we wish to ascertain. After stating the questions, we should integrate and organize them into a pattern, outline, or plan. Next, we should try to anticipate all possible answers to our questions. With the question-answer pattern established, it should not be difficult to transpose the pattern to a work program of punch-cards, summary sheets, work tables, etc. In a general appraisal consideration will be given to the factors of age, sex, color, residence, occupation, marital status, social status, supposed contributing factors, duration of disease at the time treatment was instituted, previous attacks of the disease, nature of treatment, postoperative course, and so on. Variation in symptomatology, morbid anatomy, surgical technique, complications and sequelae, and many other possibilities may be studied. Of course, in biometry, as with any other medical technique, a little previous practical experience under supervision is a great help to the novice.

Having defined the subject of study, stated and organized the problem, and set up a system for solving the problem, we are now ready to start collecting the material. This stage of the study is perhaps the least interesting, the most laborious, but nonetheless an important phase of the study. It is not a task to be lightly delegated to a minor personage; such as a student nurse. Many critical decisions must be made in assembling the crude data, therefore a responsible person should discharge this duty. The collector and selector of the material must exercise the balanced judgment of a court justice; a critical, unbiased detached attitude.

After the material for study has been collected and assorted according to plan, it is now ready for careful study and analysis. A close study of the assembled data will usually suggest to the student the indications for special investigation. It will be the purpose of the following articles to present methods for such special investigations of the data.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The fact that the United States furnishes the best medical service in the world at this time should be strong enough evidence that democratic medicine is preferable. Keep medicine free. In the freedom of medicine there is great power and progress.

Let us have any information you have about our doctors in the service. We want to know and hear about them; we are interested in them.

Long before we heard about annual health examinations, we heard of a neighbor who on each Christmas Eve had someone to play the fiddle while he danced by the clock as long as he could hold out. Each year his endurance was recorded. He began at thirty-five, the story goes, at the half-way mark of his Biblical life span. This test to see if he was holding his own was kept up persistently until he was seventy years of age. Finally losing patience because he could no longer find a fiddler who could come up to standard in stimulating foot activity, he dropped his custom. But now at eighty-one, he still insists that he is good for many more years.

Early in my professional life I realized that rational treatment, satisfactory results and reasonably certain prognosis depends on correct diagnosis. At that time our diagnoses were based on subjective and objective symptoms with slight attention to history, either personal or family. Practically no thought was given to laboratory findings. This deplorable situation was due to faulty teaching of course. So I was appalled when I soon realized that it was difficult to make a diagnosis that I could be sure was correct. Hence I early began to give more thought to diagnosis than I did to treatment. Fortunately for both me and my patients I found that my results or success in treating the sick improved as my ability to make a correct diagnosis increased. While I have always felt, and still feel, that my ability as a diagnostician is very limited, the doctors with whom I have associated in practice have given me credit for being, at least, a safe diagnostician. At the same time some of my associates have expressed themselves as having but little respect for my ability to treat cases that I have correctly diagnosed. I am not surprised at this; for I have frankly confessed that my faith in drugs, per se, to effect cures, is small. And while I have but little faith in drugs as curative agents, I have come to know that drugs can, and often do, hinder speedy recovery of the sick. Believing this, I can but deplore the great confusion that is settling down on the profession as a result of the foisting so many new remedies and products being put out by the manufacturing chemists at the present time. I believe that many, some at least, of these are worthless and that there are others need to be standardized. Why should products that are exactly alike chemically be dispensed under different names? These new products have about replaced the older drugs—perhaps rightly so—but confusion still reigns. The reason is not hard to find. It is this—we are getting our drug teaching from the detail men that are sent out by the manufacturing houses. So one doctor gets his teaching from the representative of one house while another gets his from the representative of a different firm. And while both teachers are exploiting the same thing it is dispensed under a different name. My suggestion is that we first be sure of the correctness of our diagnosis, remembering that the tendency of most sickness is to recovery, and then depend more on "vis medicatrix naturae" and less on medicine that can be swallowed. If we shall do this I think more of our patients will make a smooth and satisfactory recovery and fewer of them will be tortured by other medication.

A doctor's function and duty is, first. to diagnose corretly his patient's disease and then to assure him that he is not afflicted with a fatal malady and that he will soon be well again. Having done this he will have done about all that a doctor can and should do. But let us remember that the use of so-called instruments of precision in making diagnosis, are often unnecessary and frequently positively harmful to our patient. I feel that we depend too much on these and all types of laboratory help in making our diagnosis. My plan is to make my diagnosis, if possible, without them and if there is any question (and there frequently is) I then confirm my diagnosis by the use of these helps. Again, I never allow my patient to make any diagnosis. I listen carefully to what he thinks and says, but I act on my judgment—not on his. I learned long ago that what a patient says about pain, paralysis, and many other things is not to be trusted in arriving at correct diagnosis; for frequently these are due to psychic or emotional pathology. Thirty years ago I read a paper before the Mississippi State Medical Association with report of a case proving this. It was true then, it is true now and will always be true. To make correct diagnosis one must know his patient as a person—not simply as a patient. This being true, and it is true, why do we send so many people away from home for diagnosis? The worst mistakes in diagnosis that have come under my observation have been made by able and competent men who do not know the patient as a person. My advice then is to make your own diagnosis and if, for any reason, you do not feel that you can give the case adequate treatment, then send it to someone whom you think is better equipped to render proper treatment. The crowning and growing need, today, is for more men who are safe diagnosticians—not for better therapeutists.

—G. S. B.

News and Comment

PLANNED PARENTHOOD MEETING

"Family Security—A Basis for World Security" will be the theme of the twenty-eighth annual meeting of the Planned Parenthood Federation of America at the Waldorf-Astoria Hotel in New York City, January 24 through 27, 1944. Representatives of planned parenthood, state leagues and local committees, in all sections of the country will take part.

AMITE-WILKINSON COUNTIES MEDICAL SOCIETY

In spite of the high pressure exerted upon the profession during these strenuous times, the regular quarterly meeting of the Amite-Wilkinson Counties Medical Society was held at the usual time and place, the first Thursday evening at Field Memorial Hospital, Centreville. Again the attendance and interest was excellent. Dr. and Mrs. Brumfield were absent for reasons beyond their control (the doctor and his good wife are always conspicuous by their absence). Dr. Corinne Eddy is now in New York doing special health work. We were happy to welcome Mrs. Ella Robison Hall whose husband is now serving in the armed forces of our country as a high ranking medical officer, now on foreign duty. From Camp Van Dorn four distinguished guests, with their wives, were present: General McGaw, Lt. Col. Rleksei A. Leonidoff, Major George S. Meister and Captain Lawrence Doolittle.

Colonel Leonidoff was guest speaker for the evening. His symposium on penicillin, with especial reference to its origin and indications, was timely and illuminating. His ready wit and occasional grim humor gave zest to his remarks and added highlights to the entertainment. An interesting case report upon the administration of penicillin was made by Major Meister. The ensuing general discussion of this wonderful drug was indeed interesting and informative.

Officers for the forthcoming year were elected, and the culinary and decorative efforts of Miss Boles and Miss May, aided by their efficient corps of nurses, lent a festive air and Christmas spirit to the banquet.

PRESIDENT WILKINS PRESSES RESOLUTION

President LeRoy Wilkins thought it might be well to publish the following resolutions in the journal at this time. Mississippi in some ways has the best hospital system of any state in the union, the per capita distribution of funds for the indigent sick is the greatest step forward yet made for carrying medical service to the masses in the rural communities. It seems that Mississippi has, or did have not long ago, the lowest number of beds per capita of any state in the union and also the lowest occupancy. The hospitals are well distributed.

A hospital system that would give good internships would certainly be a boon to better medical service for our state. Also a four-year medical school must have serious consideration. We have only sixty-six fully accredited medical schools in the United States. Many have thought this number sufficient, but the distribution of doctors has brought about a serious medical service problem, and many think the location of the medical schools has helped to bring this condition about. After the war the United States will take the lead for the world in medical education. More and better schools might be utilized to a good advantage.

Surely our state-owned hospitals should be removed from political control if at all possible. A political spoils system should certainly not stand in the way of health progress for our people. The changing of heads of institutions with each incoming governor is a tragedy. The man for the place should be qualified for the job and if he is not to be found in this state, the nation should be searched for one worthy and well qualified. It is time to relegate selfish politics to the rear and push forward medical service in the building of health assets into all the people.

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HOSPITAL RESOLUTION

Whereas, the State Charity Hospitals of Mississippi, serve a class of our citizenry, unable to secure medical attention elsewhere, and without the ministry of these institutions great suffering and loss of life would be entailed upon a large group of Mississippians, and

Whereas, These Institutions are inadequately equipped and insufficiently maintained, thereby greatly impairing the work that can be done, which work considering the facilities available is bringing a great relief to thousands of our people every year, therefore

Be It Resolved by the House of Delegates, the Legislative Body of the Mississippi State Medical Association, in annual session, this the ninth day of May, 1939, that it does respectfully request the Governor of the State of Mississippi to recommend to the Legislature of the State of Mississippi that it make proper and adequate appropriations of the equipment and maintenance of the charity hospitals of Mississippi, that they can minister as they should to the poor of our state as they are entitled to be served.

CHARITY HOSPITAL AS A CLEARING HOUSE OF OTHER HOSPITALS

Whereas, The hospital facilities in the various sections of our state are not adequate for the proper care of many of the indigent citizens of Mississippi, and the medical profession has not the training for general application of the principles of orthopedic treatment and care of chronic cases, such as cancer, and

Whereas, The establishing of a large hospital in some centrally located place in Mississippi, properly equipped for the care and cure, when possible, of orthopedic and chronic cases, with adequate maintenance and trained staff would relieve the charity hospitals and privately owned institutions of a great burden and at the same time offer better prognosis to just such cases, and

Whereas, Such a centrally located hospital, affiliating with the State Tuberculosis Sanitarium and the State Insane Hospital could and would offer internship training to our young graduates that would fit them to be better doctors and keep them in our own state, after completing their internship.

Therefore, Be It Resolved by the House of Delegates, the Legislative body of the Mississippi State Medical Association, in annual session, this the ninth day of May, 1939, that the Governor of Mississippi be respectfully requested to recommend such legislation to the legislature as will make possible the foregoing desirable means of ministering to the indigent of this state.

Whereas, The Mississippi State Medical Association because of its knowledge of the ability of its various members is in a position to know, who, from a medical standpoint, could and would best serve as superintendents of our various hospitals and,

Whereas, A System Now Employed in the Appointment of the members of the Mississippi State Board of Health has removed the Mississippi State Board of Health from the influence of factional politics and has placed it under the control of the Mississippi State Medical Association, and such a system has resulted in the choosing of a Board of Health that has functioned successfully, therefore be it

Resolved by the House of Delegates, the Legislative body of the Mississippi State Medical Association, in annual session, this the ninth day of May, 1939, that it does respectfully request the Governor of the state of Mississippi to recommend to the incoming state legislature such legislation that will permit the Mississippi State Medical Association to present three names from the state at large to the Governor of the state of Mississippi for the superintendency of each charity hospital in the state, and from such three names the Governor of the state of Mississippi shall name the superintendent of the State Charity Hospital for which the names are presented by the Mississippi State Medical Association for such hospital.

OBSTETRIC FEES INCREASED IN MISSISSIPPI EMERGENCY MATERNITY AND INFANT CARE PROGRAM

Effective as November 1 for all applications received on or after that date, physicians in Mississippi will receive a $50.00 obstetric fee instead of the $35.00 fee which originally initiated the program. The fee will be made up of three parts:

(1) $15.00 for prenatal care, a total of eight visits.

(2) $30.00 delivery fee.

(3) $5.00 postpartum examination fee, if the physician wishes to hold the medical record until this examination is made.

"Applications to the Mississippi Emergency Maternity and Infant Care Program continue to be received by the Division of Maternal and Child Health of the Mississippi State Board of Health at the rate of between 450 and 600 a month," stated Dr. Virginia Howard, director of the division. A total of 84 coöperating institutions distributed over the entire state are now participating in the program. During the last month 7,000 folders discussing the program have been distributed to the Red Cross offices, Army emergency relief offices, and county welfare offices. In addition, the number of records etc., which are necessary for the physicians to keep on each case have been reduced to an irreducible minimum, that is, on sheet.

In four localities in the state plans are underway through the coöperation of the Emergency Maternity and Infant Care Program and through the coöperation of local physicians and public-spirited citizens to set up small maternity homes where no hospitals are available in order to conserve physicians' time and to offer mothers the safer and better care which can be given them under such surroundings. Physicians in communities where hospitals are not available should write to the Division of Maternal and Child Health and mention their interest in originating such a maternity home in their own community.

Virginia Howard, M.D.
Director, Maternal and Child Health Division

DR. I. W. ELLIS ELECTED

Jonesboro, Ark., Dec. 5—Dr. Ira W. Ellis of Monette is the new president of the Craighead-Poinsett County Medical Society. He succeeds Dr. O. T. Cohen of Jonesboro. Other new officers include Dr. W. H. Moreland, Tyronza, vice-president; Dr. J. H. McCurry, Cash, secretary, and Dr. R. C. Shanlever, Jonesboro, board of censors.

DR. SHIPP HONORED

It is of state-wide interest that Dr. C. M. Shipp, Bay St. Louis, director for the Hancock County Health Department since it was established about 1925, ha sbeen named president-elect of the Mississippi Health Association. He will take office following the one-year term of Dr. John B. Grant, McComb who became president at the annual meeting.

TRIBUTE TO DR. BEACHAM

Mississippian Made Life Member of College of Surgeons

New Orleans, Dec. 22.—AP)—Dr. Woodard D. Beachan, instructor in gynecology and obstetrics in Tulane University School of Medicine, has been awarded a life membership in the American College of Surgeons.

Dr. H. W. Kostmayer, dean of the Tulane Medical School, announced the award Tuesday night, saying it was made for the most excellent medical record presented by candidates for fellowship during the year.

More than 700 doctors competed for the award, and Dr. Beacham became the fourteenth physician to win it.

Dr. Beacham is from Hattiesburg, Miss., and an honor graduate of the Tulane Medical School.

THE AMERICAN COLLEGE OF SURGEONS

Initiates, 1943

Dr. Thomas S. Eddleman	Jackson
Dr. Wesley W. Hall	Shelby
Dr. H. Carroll McLeod	Hattiesburg

OBJECTS TO GOVERNMENT AID

Dr. W. H. Anderson,
Booneville, Miss.

Dear Dr. Anderson:

After reading the two articles in the last issue of the *Mississippi Doctor* relative to state medicine, and because they seemed to be a little contradictory, I would like to remind the doctors of the state that in 1938 the Mississippi State Medical Association passed a resolution, as passed by the Delta Medical Society, opposing state medicine in any form.

The manner in which the medical service is being dished out to the wives and children of the service men, under the name of maternity and infant care program, is state medicine.

When reading of CIO attitude, I was reminded of the fact that this might be a baby of the CIO, hatched from the political incubator heated by the opportune current of duty to those men fighting our battles. Those men are fighting battles, but they are fighting for a freedom that will give their families the right to choose a physician and a physician the right to practice medicine without being the hireling of a bunch of politicians. I would like to know why the families couldn't be paid the money for medical services just as for the other necessities of life?

We should be very cautious and careful before gobbling up this glittering bait of dollars being cast on a dirty slick political line, or we may be hooked into the Wagner Bill stewpot where our individuality shall soon shrink and disappear.

Personally, I do not intend to practice state medicine and as long as I am able to wiggle, I shall always fight for the good old banner of organized medicine.

With best regards,

I am, your friend,
C. W. Patterson, M.D.

PLEAD FOR SUPPLIES

There is a critical need for medical and surgical supplies that may lie hidden and forgotten in your office: discarded or tarnished instruments . . . surplus drugs . . . vitamins . . . infant foods. Collected, packaged, sent to the Medical and Surgical Relief Committee, 420 Lexington Avenue, New York, they can play a vital role in its program of medical relief for the armed and civilian forces of the United Nation.

Surgical instruments and medicines are sought-after by physicians and pharmacist's mates of our Navy . . . are hungrily snatched by the medical corps of our Allies. The work of warzone hospitals and welfare agencies is too often crippled by the lack of medical supplies. Community nurseries in this country, refugee camps abroad cry out for vitamins and baby foods for their ill-nourished charges.

To meet the demands that pour into headquarters, the Committee needs all types of instruments, especially clamps, scalpels, forceps, and all kinds of drugs from iodine to sulfa products. By contributing what you can spare, you will help speed another shipment of sorely-needed medical aid.

Dr. Willard H. Parsons of Vicksburg is the state chairman for Mississippi.

Doctors in the Service

MAJOR SEALE HARRIS, JR., IS HEART ATTACK VICTIM IN AUSTRALIA

Major Seale Harris, Jr., 43, died after a heart attack in Brisbane, Australia, December 22, according to a message received by his father, Dr. Seale Harris, Sr. Major Harris, who enlisted in the Army Medical Corps in March, 1942, was second in command of an Army base hospital in Brisbane.

After being graduated from the University of Alabama and Johns Hopkins Medical School, Major Harris was assistant professor of medicine at Vanderbilt University eight years. He returned to Birmingham and for five years practiced medicine with his father, internationally known Birmingham physician, who was decorated for meritorious service with the Medical Corps overseas in World War I.

Commissioned a major immediately after enlisting in the Medical Corps, Major Harris sailed May 1, 1942, and for seven months was head of an Army base hospital in the Fiji Islands. The month of February, 1943, he spent on furlough with his father in the Highland Plaza Apartments in Birmingham, Alabama.

Major Harris was born in Union Springs, Alabama, October 7, 1900.

Survivors are the widow, who resides in Pensacola; his father, Dr. Seale Harris, Sr.; a son, Seale Harris, III; a daughter, Betty Bernie Harris, of the University of Alabama, and a sister, Mrs. Jack Koegan, Highland Plaza Apartments.

CHRISTMAS GREETING FROM THE SOUTH PACIFIC

The following address by a contributor to the journal was made by Major Merrill Moore at the citation ceremony for 85 officers and men of the United States Army awarded the Purple Heart at a hospital of the American Armed Forces somewhere in the South Pacific Sunday, January 31, 1943.

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Only a few months ago, and not very far away, these soldiers who are being honored here today were fighting desperately for their lives and for ours in the jungle.

This peaceful scene and the hospitality of this country were things they did not dream of then because they were too busy fighting a savage enemy whose very existence was a threat to everything they prized in life, but this was what they were fighting for, this beauty and this way of living.

These men saw their friends die tragically and at this moment it is those friends whom we are all remembering because they are not here to receive this decoration. But they would receive it if they had not already been rewarded with a higher honor, ". . . to die like a man for one's country!" They are not here flesh alive with us but they are with us again in spirit and we celebrate them too, today.

You who are being awarded the Purple Heart do not really need this decoration, because you have your wounds and your memories. But we, whose privilege it is to serve you, need to make this award in order to express to you our appreciation and our admiration for what you have done so well and so courageously. Also, this is to demonstrate to you the pride and the affection your families and your friends all hold for you. Your comrades, your officers, all your colleagues in the United States Army, Navy and Marine Corps, the officials of our Government and the governments of our gallant Allies, all speak to you through this ceremony in recognition of your chivalrous actions.

You have endured hardships I need not remind you of, and suffering we have tried to alleviate, but now at this moment I see that you know the happiness and feel the joy that comes not often and only to the few that have offered themselves and all they had, and have been spared, for the cause of freedom.

Merrill Moore

Overseas with the Fifteenth Army Group is Major Samuel W. James, formerly of Ackerman, serving now with the Medical Corps in Italy.

Deaths

DR. J. S. ABNEY, SR.

Funeral services for Dr. J. S. Abney, Sr., 69-year-old resident of Jackson, Miss., for the past 10 years who died suddenly at his home, 841 North Street, November 27, were conducted by the Rev. Dr. Claude Bowen, pastor of the Calvary Baptist Church, officiating.

Dr. Abney, former resident of Birmingham, Ala., was a member of the Baptist Church. He was graduated from Memphis Hospital Medical College in 1905.

He is survived by his wife, Mrs. Lena Abney; four sons, Pvt. John S. Abney, Jr., of Washington, D. C., Pvt. Bill Abney of Gadsden, Ala., Sgt. Walter B. Abney, somewhere in the oSuth Pacific, and Gus Abney, also of Gadsden; two daughters, Mrs. S. W. Donaldson, Jr., and Mrs. W. A. McAllily, both of this city; five brothers, Ben and Joe Abney, both of Linden, Ala., Oswald and Jim Abney, both of Mobile, Ala., and Jack Abney, of this city; two sisters, Mrs. Nancy Pittman and Miss Violet Abney, both of Mobile, Ala.; and two grandchildren.

DR. D. W. BOYD, SR.

Last rites were held October 13 for Dr. D. W. Boyd, Sr., one of Walthall County's oldest and most valuable citizens.

Dr. Boyd passed away in his eightieth year following several days' illness. His useful life and many noble deeds will long be remembered in Walthall County. Having followed his medical profession until a few years ago when his health forced him to retire, he is known throughout this section.

He was educated at Louisville Medical College.

He gave the property on which the Salem School and Salem Baptist Church now stand, and was the founder of Salem School and a leader among the organizers of the church.

His son, John Ira Boyd, was killed in France twenty-five years ago on October 12, the day of Dr. Boyd's death. Members of the American Legion acted as pall-bearers.

His wife preceded him to his grave a year and seven months. He is survived by five sons, A. E. Boyd, D. W. Boyd, Jr., W. T. Boyd, A. L. Boyd, all of this county, and Donald Boyd of Mobile, Ala.; three daughters, Mrs. Willie Brumfield and Miss Azel Boyd of the county, and Mrs. Willie Martin of Lafayette, La.; one brother, Robert Boyd and one sister, Mrs. Martha Thornhill.

DR. VAN ALSTINE

Services for Dr. F. L. Van Alstine, 65, who died at the family residence, 727 Gillespie St., Jackson, Jan. 3, after an illness of several months, were held at the Baldwyn chapel Tuesday at 11 a.m.

A practicing physician in Jackson for the past 17 years. Dr. Van Alstine was a member of the staff of the Baptist Hospital and belonged to the Central Medical Association and the Southeastern section of the American Urological Association. He formerly practiced medicine in Oklahoma and Arkansas, and before coming to Jackson was connected with the Marine hospital in New Orleans.

He was a member of the Galloway Memorial church.

Dr. Van Alstine was born in Lake County, Michigan, and received his medical education at the Hospital College of Medicine, Louisville, Ky.

Surviving are his wife, two daughters, Mrs. Claude Tyler of Shawnee, Okla., and Mrs. W. B. Jumper of Dallas, Texas, four grandchildren, and one sister, Mrs. B. B. Harris of Sardis.

DR. L. B. NEAL

Dr. L. B. Neal, prominent Jackson physician. who resided in Clinton, passed away December 1.

A native of Madison County, Dr. Neal moved to Raymond during his youth and served in the U. S. Medical Corps during World War I. He had been practicing medicine in Jackson for a long number of years. He is a graduate of Memphis Hospital Medical College.

Surviving are his wife, Mrs. Ruth Bell Neal, Clinton; a son, William Stuart Neal, in medical school at LSU; a daughter, Mrs. T. W. Warren; his mother. Mrs. W. S. Neal, Clinton; two brothers, Dr. George S. Neal, Clinton and T. W. Neal, Jackson; and two sisters, Mrs. Fred Jones, Clinton and Mrs. F. N. Sivley, Clinton.

DR. OLIVER F. CARR

Services for Dr. Oliver Franklin Carr of Clarksdale, Miss., former head of the State School for the Blind at Jackson, Miss., were held at the Clarksdale Presbyterian Church December 5 with the Rev. C. E. Mount officiating. Burial was in Pontotoc.

Dr. Carr, a graduate of the University of the South, died after a brief illness. He was 64.

Born in Pontotoc, Miss., Dr. Carr practiced medicine at Pontotoc until seven years ago when he moved to Jackson to head the State School for the Blind for four years. Since then he had been practicing at Clarksdale. He was the son of the late O. C. and Josephine Miller Carr of Pontotoc.

He leaves his wife, Mrs. Willie Bell Carr; three daughters, Mrs. Chris Lambert of Clarksdale, Mrs. Josephine May of Jackson and Mrs. Willie Bell Sneed of Memphis; a son, Oliver Franklin Carr, Jr., in England with the Army; two brothers, Dr. I. P. Carr of Clarksdale and W. Lawrence Carr of Pontotoc.

DR J. S. ABNEY, SR.

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DR. H. R. ELLIOTT, SR.

Dr. Hiram R. Elliott, Sr., died in Coutrland November 27 after a long illness. He had long been identified with professional and political affairs of north Mississippi.

He graduated from Memphis Hospital Medical in 1900.

Book Reviews

KAISER WAKES THE DOCTORS, by Paul de Kruif. Published by Harcourt Brace and Company, New York, 1943. Price $2.00.

(Reviewed by Dr. W. A. Evans, Aberdeen, Miss.)

This is a contribution to the very abundant literature on group medicine, social medicine, the economics and the machinery of medical care, and allied subjects, based on the experiences of Kaiser, the contractor and present day ship builder, and the men who have worked on his jobs since 1940.

From the literary standpoint the book is a job well done. It is in the usual de Kruif style and books in that style are readable and interesting. With this statement we dismiss that phase of the subject. Of much more importance to the readers of the *Mississippi Doctor* is the feasibility of the plan followed in the Kaiser industries. Would that method be good for the public and for the physician if generally adopted?

De Kruif advocates it, but he is always an advocate of that about which he is writing, is always a special pleader. But in our judgment, he is not discriminating enough to be a safe guide, for he is generally something of a hero worshipper. But most heroes have clay feet and de Kruif's heroes are apt to be made of clay some distance above the ankle.

De Kruif is certain the plan he advocates is working well in the three or four industrial communities where it has been applied. With the addition of a method for the care of the families of workers the plan appears to be meeting with the approval of the California profession or a large section of it. De Kruif proposes that it be developed all over the United States, making use of funds for hospitals and centers—such funds supplied by the federal government.

No considerable part of the medical profession will want to accept the suggestion on the basis of the proof now in hand. However, state medical societies might very well provide for impartial reports on the method founded on careful studies. One wonders how it could be applied in an agricultural state such as Mississippi. How would the monthly payments be collected from farmers, white and negro, how could physicians now over forty years old, trained fifteen years and more ago, practicing general medicine, how could such be made to fit into the plan.

Many questions remain to be answered before the medical profession can feel that it has the foundation for a considered answer.

Health Education on the Industrial Front is a most interesting and illuminating book published by the Columbia University Press. This book is the product of the third annual Health Education Conference under the auspices of the New York Academy of Medicine.

Among the subjects discussed are: The wartime industrialization of the community and its health problems, food and nutrition in the home and in the work place, disease and handicap detection and control in industry, mental problems and morale in industry, educational methods and control of accidents in industry. These subjects are discuseed by as many specialists. Many facts and figures are used and evidence is apparent that thorough investigation was made to establish same. But in addition to the interesting factual data, it is a most readable little book and it is thought-provoking. For example Dr. Bessey states that a cafeteria manager might have a fine opportunity to sell nutrition as well as mere food. Indeed, every practioner will want a copy of this book which may be secured from the Columbia University Press, New York. The price is $1.25.

PRELUDE TO SANITY, by S. Greiner, published by Master Publications, Ft. Lauderdale, Fla., 1943. Price $3.00.

(Reviewed by Dr. W. A. Evans, Aberdeen, Miss.)

Several years ago Mrs. Hutchins wrote a book which several people tried to read and then quit because they could not decide what it was about. The author replied that no one could understand the book and she did not want it understood. It is doubtful if anybody can understand *Prelude to Sanity* and few will try.

As near as this writer can make out Greiner thinks the brain cells have overrun all the other cells of the body and have created a world about them. This world is artificial and false. There will be no remedy until all the cells of the body get on a par with the brain cells. Language is among the artificial, unreal and deceptive creations. Therefore, words cannot be used to carry meanings until this millennium has come. It follows that books making use of words can never be made to carry adequate meanings. Then, what's the use of writing them or reading them?

Perhaps the reviewer can not lay aside all that he has learned, all his fixations as he who would read *Prelude to Sanity* is advised to do. Not to lean entirely on "primal intuition" is to find himself confused and perplexed.

In twenty-six years of costly experimentation the author employed hypnosis on hundreds of people to further this study of human misbehavior. But whether his book is an "open sesame" to a scarcely touched approach to the problem of mental therapy, we can not say. If we could understand him, he might be a revolutionary. He might be anyway.

SEVENTY OR SIXTEEN

Where seventy or sixteen, there is in every being's heart the love of wonder, the sweet amazement at the stars and the starlike things and thoughts, the undaunted challenge of events, the unfailing childlike appetite for what next, and the joy and the game of life.

You are as young as your faith, as old as your doubt; as young as your self-confidence, as old as your fear; as young as your hope, as old as your despair.

In the central place of your heart there is a wireless station; so long as it receives messages of beauty, hope, cheer, courage, grandeur and power from the earth, from men and from the earth, from men and from the Infinite, so long are you young.

When the wires are all down and all the central place of your heart is covered with the snows of pessimism and the ice of cynicism, then are you grown old indeed and may God have mercy on your soul.

•

The above anonymous bit of philosophy came to us from Dr. Seale Harris at Christmastime. It is just as good one day as another. Let us keep the heart tuned in on the station beyond the clouds whence are received messages of beauty, hope, cheer and courage.

In an interview recently with engineer George E. Johnson of the Green Diamond Train of the Illinois Central Railroad, published in the *Illinois Central Magazine*, he describes this train as a five-car 144-seat, diesel-engined, articulated, streamlined train with a speed of 95 miles or more per hour. Engineer Johnson speaks a few words about safety and safety-first campaigns. A good engineer can only be a safe engineer. Safety is the keyword with all engineers. "But the public, the automobile drivers, the Sunday drivers, please, please, please stop, look and listen before crossing railroad tracks. I wish you could ride with me in my cab along at the high speed of a streamliner and see with your own eyes the foolishness, the lack of common sense and elementary safety-first precautions of the many who take one chance too many. Please be watchful and careful at all times. We are practising safety methods of all kinds, please do likewise."

Interpreting Medical Literature

PEDIATRICS

"Hematologic and Radiological Study of Infants Receiving Massive Doses of Vitamin D in Rickets Prophylaxis—Alwin C. Rambar, L. Martin Hardy, and William I. Fishbein —Journal of Pediatrics—23: 31 (July) 1943.

"Recent publications have called attention to the use of single massive or shock doses of vitamin D given either by enteral or parenteral means in the cure or prevention of rickets."

The purpose of this study was to investigate the antirachitic value and safety of a single massive oral dose of an electrically activated ergosterol in normal infants. "The use of smaller doses given once a month was also investigated. This study was carried out from October, 1941, to April, 1942. Data collected during the remainder of the year, when sunshine is rich in ultraviolet rays, may be very misleading. Forty infants were divided into four groups of 10 each. The infants in Group I each received 600,000 U. S. P. units of vitamin D in one day, orally. Those in Group II received 100,000 U. S. P. units of vitamin D in a single dose each month for six months. Those in Group III received 3 teaspoonfuls of cod liver oil a day; and the infants in Group IV, 15 drops of viosterol once per day."

Due to a variety of circumstances, it was possible to follow closely only 19 of these infants. These 19 included eight infants of Group I, four of Group II, five of Group III, and two infants, twins, of Group IV. "All of these infants were white except two in Group I and one in Group III.

The author says that since most infants are given some form of vitamin D before they are a month old, six infants in this series had already received some vitamin D prior to this study. All of the infants, at the beginning of the study, were placed on nonirradiated milk. At three to four months they were given nonirradiated cereal, and at four to five months, strained vegetables were added. Strained fruits were given at six months. Vitamin C was given in the usual manner. The vitamin D used in this study was an electrically activated ergosterol, which was supplied in capsules, each of which contained 50,000 U. S. P. units of vitamin D. This substance is completely miscible in milk, and an equal part of the day's dosage was given in a small portion of each bottle just before the regular feeding. This was done so that none would remain if a portion of the feeding was refused. A nurse visited the home of each infant the day after the administration of Vitamin D to make certain that no vomiting, regurgitation, or refusal had occurred. In the period during which the infant was being studied in the clinic, frequent home visits were also made to ascertain that no substitution of milk or other feedings were taking place."

At each monthly visit of the infant to the clinic, blood calcium and phosphorus levels were determined, and roentgenograms of the long bones were made. Complete blood counts were done monthly to make certain that no harm occurred from the repeated withdrawals of blood necessary for the chemical determinations. The cellular and chemical constituents of the blood of each infant were determined at each visit to the clinic."

It is stated that none of the infants receiving the massive dose of vitamin D showed any sign of toxicity from the substance, and no instance of vomiting was recorded. None of these patients showed any clinical or laboratory signs of rickets. In no instance did the calcium level go beyond normal limits, although no determinations were made immediately after the administration of the antirachitic agent."

The two infants who received 15 drops of viosterol each showed craniotabes at 4 months of age and flaring and cupping at the distal end of the radius and ulna and the upper end of the fibula. Calcium and phosphorus levels of the blood serum were normal. At 5 months these infants were given 600,000 U. S. P. units of vitamin D, at 6 months the craniotabes were absent, and at 8 months the roentgenograms were normal. There was no deviation from the normal calcium and phosphorus levels during this period of healing.

"The growth curve was normal in all, except one negro infant." The results obtained from this series of infants and those of other investigators give promise that the single dose method of vitamin D administration may well become the method of choice in the future.

Comments

There is considerable merit in the suggestions offered in the above article with reference to giving the single dose of vitamin for the prevention of rickets; however, it is quite a new idea and to be on the safe side it would be well not to take the suggestions too seriously.

H. F. G.

ERROR

On page 180 of the November issue of the *Mississippi Doctor* appears the following statement:

"The very real danger existing in induction of more prolonged anesthesia of the lumbar sympathetic ganglia by the use of alcohol and other agents is again commented upon and the author concludes that an alcoholic block of the lumbar sympathetic ganglia should only be employed with caution, and that alcoholic block of the cervical dorsal sympathetic ganglia should be employed under any circumstances."

It should have read "and that alcoholic block of the cervical dorsal sympathetic ganglia should *not* be employed under any circumstances."

State Board of Heath

Felix J. Underwood, M.D.

SANITARY AND SAFETY REGULATIONS for INDUSTRIAL ESTABLISHMENTS

Physicians of the state will be interested in the following regulations relating to industrial safety and sanitation, adopted by the State Board of Health at its meeting, October 21, to be included in *Rules and Regulations Governing Sanitation.*

AUTHORITY FOR ADOPTION

These regulations are adopted and promulgated by the State Board of Health under authority vested in it by the State Legislature. (Code 1930, Section 4875.)

PENALTY FOR VIOLATING REGULATIONS

Penalty for violating the regulations of the State Board of Health is provided by law. (Code 1930, Section 4897).

RIGHT OF ENTRY

Official representatives of the Mississippi State Board of Health are hereby authorized to enter any industrial establishment coming within any of the following regulations governing sanitation and safety of the State Board of Health for the purpose of making official inspections thereof as may be necessary at any time during which any such place is open for business, and it is thereby made the duty of every person in the management or control of any such place of business mentioned above to afford free access to any and all parts of the same and render all aid and assistance necessary to enable such official representatives to make a full, thorough, and complete examination thereof.

INDUSTRIAL ESTABLISHMENTS

Industrial establishments shall include all places of employment in which articles are manufactured, repaired, cleaned, sorted, or renovated, in whole or in part, for profit, sale, or compensation.

SCOPE

The following regulations apply to all industrial establishments in the state of Mississippi and the responsibilities for compliance with the provisions of these regulations shall rest with the owner, superintendent or manager.

DUTY OF EMPLOYER

It shall be the duty of the employer or of any persons responsible for the management of industrial establishments to inform the employees engaged therein of the health hazards associated with their specific duties, and of the health hazards that exist in their occupational environment, and of the necessary precautions and hygiene the workers must exercise to guard against these hazards and to provide the necessary safeguards and sanitation to protect the health of the workers.

PURPOSE

The purpose of these industrial sanitary and safety regulations is to provide a reasonably safe and healthful working environment without placing an undue hardship on the manufacturer or interfering with industrial operation.

SANITARY REGULATIONS

SECTION I. Water Supply

Item 1. There shall be provided in every plant at all times for the use of all the employees a water supply which is adequate easily accessible, and of safe, sanitary quality.

Item 2. All sanitary privies shall be con-

The source of drinking water shall be approved by the State Board of Health.

Item 3. Every reasonable effort shall be made by the plant management to prevent unapproved process waters or water provided for fire protection purposes, from being used for drinking purposes.

Item 4. There shall be no physical connection, existing or potential, between the approved drinking water supply system and the system furnishing water for other uses, except for such cross connections which in the opinion of the State Board of Health are unavoidable and offer the maximum protection possible.

Item 5. At least one approved angle-jet, sanitary type of drinking fountain shall be supplied from a fixture which meets the approval of the State Board of Health. Where individual drinking cups are used, suitable containers for the unused and used cups shall be provided.

Item 6.Where drinking water is cooled by ice, there shall be no direct contact of the ice with the drinking water.

Item 7. During temporary and widely dispersed occupations, barrels may be used as containers of drinking water when in the opinion of the State Board of Health the barrels are properly constructed and maintained in a clean and sanitary manner.

SECTION 11. Toilet Facilities

Item I. There shall be provided in every place of employment adequate, readily accessible and sanitary water closets or privies, separate for each sex.

Item 2. All sanitary privies shall be constructed in accordance with the requirements of the State Board of Health.

Item 3. All toilet rooms shall be adequately lighted, screened, ventilated and maintained in a sanitary manner by daily cleaning.

Item 4. An adequate supply of toilet paper shall be provided in every toilet room, and a covered receptacle in those used by females.

Item 5. At least one toilet facility shall be provided for every 30 people of each sex.

Item 6. Toilet facilities in plants where food is processed or packed shall, in addition to foregoing requirements, be screened off from the plant in a manner to be approved by the State Board of Health.

Item 7. The disposal of human excreta and other liquid wastes in industrial establishments shall be governed by the regulations which have been established in Sanitary Regulations by the State Board of Health.

SECTION III.Washing Facilities

Item 1. Adequate and clean washing facilities for maintaining personal cleanliness shall be provided in every industrial establishment.

Item 2. Individual towels of cloth or paper shall be supplied in proper holder and a waste receptacle shall be provided for used towels. The common towel is prohibited.

Item 3. Washing facilities shall be provided in or in close proximity to each toilet room.

Item 4. Soap in a suitable container shall be provided. Strong alkali soaps, abrasive soaps, solvents and oils should not be used to wash the skin.

Item 5. Every wash room shall be properly lighted, ventilated, screened, and kept clean.

Item 6. Showers properly constructed and maintained shall be provided when in the opinion of the State Board of Health persons are working in an environment which may adversely affect their health.

SECTION IV. Dressing Rooms, Lockers, and Rest Rooms

Item 1. Dressing rooms shall be provided for the employees whenever the type of the work performed involves exposure to execssive dust, vapors, fumes or heat.

Item 2. Suitable clothes hooks shall be provided for all employees.

Item 3. Two separate lockers shall be provided for those employees whose clothes are exposed to contamination by material the nature of which has been declared by the State Board of Health to be toxic.

Item 4. Provision shall be made for drying work clothes of employees engaged in occupations wherein the clothing becomes wet.

Item 5. In establishments where women are employed adequate retiring and dressing space shall be provided for their use.

Item 6. All dressing and rest rooms shall be properly lighted, ventilated, screened, and kept clean.

SECTION V. Lunch Rooms and Restaurants

Item 1. Employees whose work exposes them to lead or other toxic materials are prohibited from eating at their work benches.

Item 2. Lunch rooms, effectively separated from the workrooms, shall be provided for the employees where it is inconvenient for them to eat away from the premises.

Item 3. Each lunch room shall be of sufficient space and shall contain tables, chairs, safe drinking water, and a covered receptacle for discarded material.

Item 4. Each lunch room shall be properly lighted and ventilated and thoroughly cleaned before each meal.

Item 5. Whenever any industrial establishment maintains a kitchen or restaurant or serves food on the premises, all facilities and practices shall be in accordance with the sanitary regulations governing foodhandling establishments as adopted by the State Board of Health.

SAFETY REGULATIONS

SECTION I. Personal Protective Devices

Item I. All employees exposed to industrial operations or processes which by reason of their nature present a sufficiently serious hazard to the head, face, neck, eyes, or respiratory organs of a worker as to subject him to the possibility of injury shall be provided with such protective devices as meet the approval of the State Board of Health.

Item 2. All protective devices shall be maintained in a clean, usable, and effective condition for the purpose intended. All respiratory protective equipment used must bear the approval of the U. S. Bureau of Mines for the type of exposure for which it was designed.

Item 3. Facilities for the proper cleaning, sterilization, repair, replacement and storage of all respiratory protective equipment shall be furnished.

SECTION II. Illumination

Item 1. Illumination, daylight or artificial light shall be supplied for:

1 Traversed spaces such as hallways, roadways, etc., during working hours and

2. Work when attended by operators.

Item 2. The foot-candle values of illumination shall be maintained in accordance with the accepted standards which have been approved by the State Board of Health.

Item 3. Lighting, whether natural or artificial, shall be such as to avoid glare, objectionable shadows, and extreme contrasts, and to provide a good distribution of light; in artificial lighting systems, lamps shall be so installed in regard to height, location, spacing, and reflectors, shades, or other suitable accessories as to accomplish these objects.

SECTION III. Building Exits

Item 1. Not less than two means of exit shall be provided from each and every floor, including basements, of every building or section thereof.

Item 2. All doors used in connection with exits shall swing with the exit travel. Doors sliding across the exit travel shall be approved by the Executive Officer of the State Board of Health. Vertical sliding doors and rolling shutters shall not be used as exits.

Item 3. All doors used in connection with exits shall be so arranged that they may be readily opened at any time from the side from which egress is made. Locks, if provided, shall not require keys to open them from the inside.

Item 4. All exits shall be so located that they are visible and readily accessible. All stairs which may be used for exit purposes shall be so marked as to indicate clearly the direction of egress to the street.

Item 5. A door shall not open immediately on a flight of stairs, but on a landing which should be at least as deep as the width of the door.

Item 5. Exits and exit passageways shall be kept clear and adequately lighted at all times.

SECTION IV. General Industrial Safeguards

Item 1. In all industries there shall be provided sufficient space for each employee to enable him to perform his duties safely.

Item 2. All machines shall be so constructed and guarded as to afford adequate safety to the operators .

Item 3. All employees working in and near hazardous operations shall be instructed as to the dangers inherent in their respective jobs.

Item 4. Processes known to produce hazardous conditions should be segregated from other processes or activities.

Item 5. Stairways shall be fitted with handrails.

Item 6. All floor openings shall be enclosed, guarded with standard railings and toe-boards or protected by safety covers with flush hinges; when open, covers shall provide protection equivalent to standard railings (42 inches high, permanent, substantial, and have an intermediate rail or fitted with mesh).

Item 7. Ladders shall be in good repair and be equipped with non-slip bases (safety feet).

Item 8. Whenever mechanical equipment is used as a measure of insuring sanitation and safety, periodic inspection shall be required to assure the efficiency of such equipment.

SECTION V. Cleanliness and Maintenance of Building and Workrooms

Item 1. All places of equipment, passageways, storerooms, and service rooms shall be kept in a sanitary condition.

Item 2. The floor of every workroom shall be maintained in a clean, and so far as possible, in a dry condition. Where wet processes are used, reasonable drainage shall be maintained and false floors, platforms, mats or other dry standing places shall be provided.

Item 3. Every floor, working place and passageway shall be kept free from protruding nails, splinters, holes, or loose boards.

Item 4. When repair work is being done, nearby employees shall be protected. Guard rails and warning signs shall be used.

Item 5. Every exhaust ventilation system, and other protective equipment installed shall be maintained in an efficient working order, and shall be used and operated consistently.

SECTION VI. Ventilation

Item 1. Natural or artificial means shall be provided to insure a comfortable and healthful atmosphere throughout the premises.

Item 2. Adequate exhaust systems shall be installed, properly maintained, and effectively operated to reduce all toxic materials below the maximum allowable concentration of these substances as approved by the State Board of Health.

Item 3. The air outlet from every exhaust system shall discharge to the outside atmosphere at such a point that the discharge therefrom will not re-enter any place of employment or habitation nor create any hazard to the public. The State Board of Health will approve the recirculation of air when an efficient separator is used.

SECTION VII. Protection Against Occupational Diseases of the Skin

Item 1. Whenever a chemical substance is declared by the State Board of Health to be injurious to the skin or to be absorbed through the skin, adequate protective clothing, gloves, masks and/or skin creams shall be provided.

Item 2. Whenever possible, the industrial operation or process shall be effectively safeguarded and enclosed to prevent harmful chemicals from coming in contact with the skin.

Item 3. Washing facilities shall be conveniently located for the use of those employees engaged in operations which are harmful to the skin.

* * * * *

MISCELLANEOUS NEWS NOTES

Distinguished guests to Mississippi and the State Board of Health during November included Dr. Dorothy Mary Taylor, Senior Medical Officer of the British Ministry of Health, following her appearance before the Annual Meeting of the American Public Health Association in New York where she spoke on "Rationing and the Diets of Mother and Child" and "Day Nurseries."

Public health workers in this country profited from an account of Dr. Taylor's work, which involves the health and welfare of Britain's expectant mothers and three million children under five. That she has done an excellent job, in spite of wartime conditions, is reflected in the 1942 statistics. In that year Britain had the highest birthrate since 1931—15.8 per 1,000—and the lowest maternal mortality rate on record—2.47 per 1,000—together with a record low infant mortality rate of 49 per 1,000 births.

It was quite a privilege to have Dr. Taylor visit Mississippi where she observed the maternal and child health program and addressed an interested audience on her experiences in Britain. She expressed keen interest in learning more about the work being done in this country. Her visit, sponsored by the British Information Services, emphasizes the value of interchange of ideas and experiences in promoting health and welfare.

* * * * *

Dr. Walter Wilkins, Chief of the Nutrition Section, States Relations Division, United States Public Health Service, conducted three nutrition clinics at the annual meeting of the Mississippi Home Economics Association in Jackson, November 5. The clinics, sponsored by the State Board of Health, had an attendance of about 375 people.

Deficiency diseases and malnutrition are on the increase in many areas and preventive measures lie chiefly in the correction of improper food habits of large numbers of the population. The purpose of the nutrition clinics was to demonstrate to a lay group several of the types of deficiency diseases and their causes. A series of excellent slides was utilized by Dr. Wilkins to describe these conditions. It was pointed out that as a rule people may be divided into three classes: a very small and unknown number who have optimum nutrition; a very large and unknown number who have various nutritional deficiencies; and a very small number who have visible lesions and definite symptoms of advanced malnutrition. He showed that the greatest number of people lie in the middle group, neither optimum nutrition nor definite malnutrition, but stay on the borderline of ill health and below the full efficiency of production. The correction of these deficiencies is essential to maintaining health and achieving maximum physical fitness.

* * * * *

The Mississippi Public Health Association held its Seventh Annual Meeting December 9-10, at Jackson. Sessions were given over to discussion of wartime public health problems and their solution. Among out-of-state speakers were: Dr. Thomas L. Hagan, New Orleans; Dr. Walter Wilkins, Washington; and Mr. L. H. Male, Mr. T. H. Buterworth, and Mr. H. C. Taylor of the United States Public Health Service, New Orleans.

* * * * *

Recent figures on the activities of the Mississippi Emergency and Infant Care Program have been released by the Division of Maternal and Child Health of the State Board of Health. Dr. Virginia Howard, director of the program, states that as of November 24,3,405 applications by soldiers' wives throughout the state had been received. Residents in eighty-one counties are among the number.

The response from Mississippi physicians has been equally gratifying. There are 482 doctors now actively participating in the program on a state-wide basis.

Hospitals both small and large are accepting maternity cases under the program throughout the state. A total of 82 have now requested inspection visits by the director and have been approved as offering safe hospital facilities for mothers and babies.

Woman's Auxiliary

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GULFPORT AUXILIARY CELEBRATES ANNIVERSARY

The Gulfport unit of the Woman's Auxiliary of the Harrison-Stone-Hancock Counties' Medical Society celebrated its twentieth anniversary Tuesday afternoon, November 23, 1943. The meeting was held in the home of the organizer, Mrs. D. J. Williams, with Dr. Emma Gay, a charter member, as co-hostess.

The reception suite of the Williams home was decorated with white sasanqual japonicas and American beauty roses from the hostess' garden.

Auxiliary president, Mrs. Joseph P. Evans, presided over the business session during which a financial report was given by the treasurer, Mrs. James Lopez, and a report of the linen shower for the Gulfport General Hospital was made by Mrs. Cummings McCall. Mrs. E. C. Parker gave an account of the meeting of the Southern Medical Association and Auxiliary which she and Dr. Parker attended recently in Cincinnati. Dr. Margaret Caraway thanked the auxiliary for its courtesy in making her an honorary life member.

The Auxiliary voted to subscribe to *Hygeia,* the health magazine of the A.M.A. for the Gulfport Carnegie Library. Mrs. H. Davidian was appointed subscription chairman. It was decided to invite a guest speaker to the December meeting to discuss the Wagner socialized medicine bill.

The Cadet Nursing Corps was discussed and plans made for a round table on the subject at the January meeting, to be led by Mrs. Delila Keyser, administrator of the General Hospital.

Dr. Caraway spoke of the objects of the auxiliary, the main one of which is foster closer and friendlier association among the families of doctors.

The guests were invited to the dining room where the table was a mass of pink and white sasanqua japonicas centered by a large pink and white cake bearing 20 lighted candles. Dr. Margaret Caraway presided at the coffee urn and Dr. Gay cut the birthday cake while many good wishes for the auxiliary were voiced.

Present were Mrs. Joseph P. Evans, Mrs. E. C. Parker, Mrs. Cummings McCall, Mrs. Archibald Hewes, Mrs. J. A. Hughes, Mrs. James Lopez, Mrs. D. J. Williams and Drs. Emma Gay, Charlotta Miller, and Margaret Caraway.

CLARKSDALE AND SIX COUNTIES AUXILIARY

The Woman's Auxiliary of Clarksdale and Six Counties Medical Society, which meets simultaneously with the medical society, held its semi-annual session Wednesday afternoon in the private dining room of Hotel Alcazar, with the president, Mrs. Arthur Smith, of Sumner, presiding.

The meeting was opened with the salute to the flag, after which Dr. E. LeRoy Wilkins, president of the State Medical Association and Regional chairman of National Child Welfare Work, gave a splendid talk on the subject of juvenile delinquency, which was most interesting and instructive.

Following this feature of the meeting, Mrs. Smith announced chairmen of the various committees to serve during ensuing year: Mrs. D. H. Griffin, program; Mrs. I. W. Barrett, Public Health and Preventorium; Mrs. D. H. Raney, press; Mrs. Guy Post, *Hygeia*; and Mrs. E. L. Wilkins, sunshine.

As a finale to the pleasant afternoon, the members enjoyed a delightful social hour during which a delicious collation was served.

Those present at this meeting were: Mrs. H. L. Cockerham, of Gunnison; Mrs. Arthur Smith, of Sumner; Mrs. J. E. Furr, of Marks; Mrs. D. H. Raney, of Mattson; Mrs. T. G. Hughes, Mrs. Julius Levy, Mrs. Frank Carr, Mrs. S. D. Robinson, Mrs. D. H. Griffin, and Mrs. Guy Post, of Clarksdale.

The auxiliary members were delighted to have as their guest, Mrs. Agnelli, wife of an officer in the medical corps at the Italian prison camp.

MISSISSIPPIANS TO S M A

The following doctors' wives from Mississippi were at the annual meeting in Cincinnati, Ohio, at which Mrs. Richard H. Clark of Hattiesburg presided as president: Mrs. E. C. Parker, Gulfport; Mrs. H. F. Garrison, Mrs. J. G. Thompson, Jackson; Mrs. W. W. Crawford, Mrs. H. C. McLeod, Mrs. J. P. Culpepper, Mrs. P. E. Smith, Mrs. R. E. Schwartz, Hattiesburg.

Mrs. John Pierpont Helmick, Fairmont, West Va., is the new president.

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We take this opportunity to extend to one and all the traditional greetings of the season.

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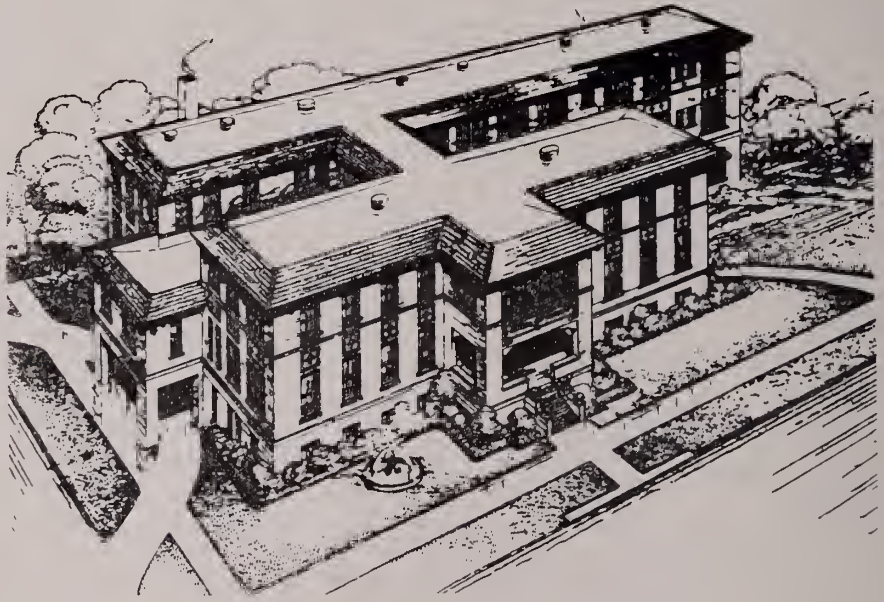

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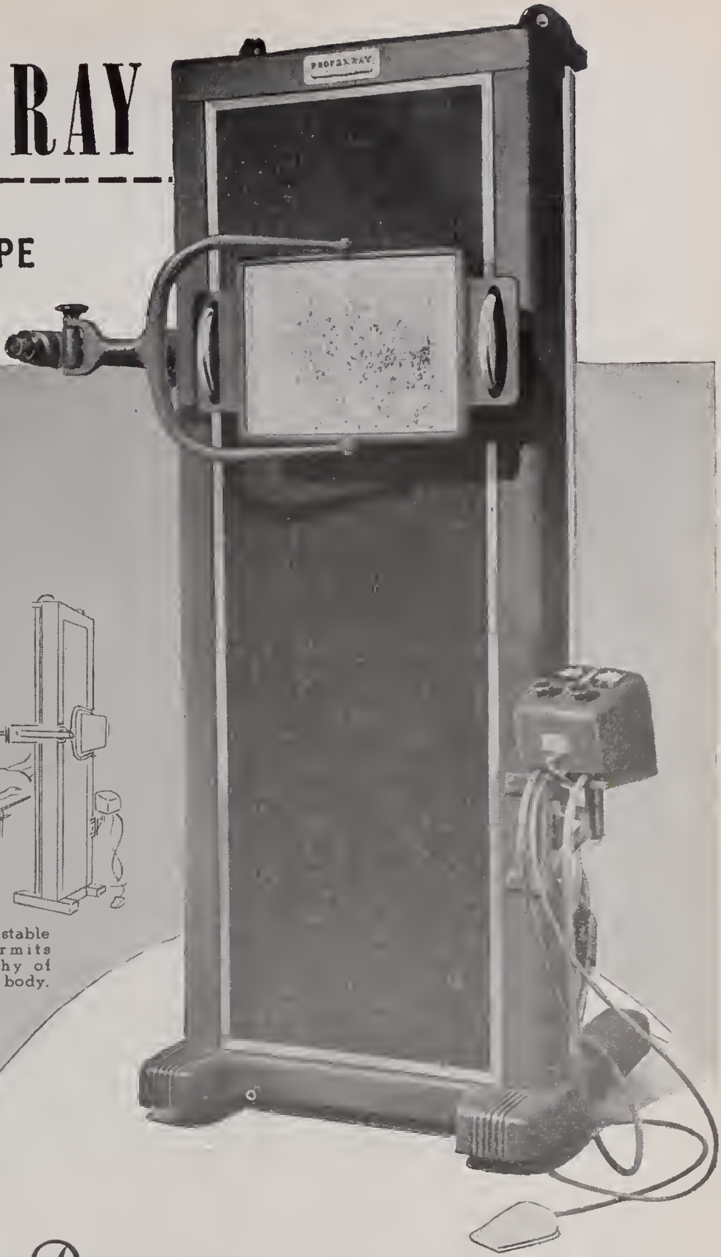

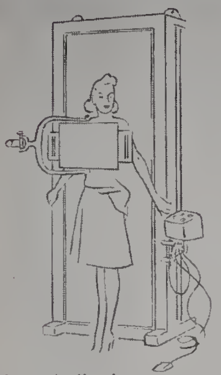

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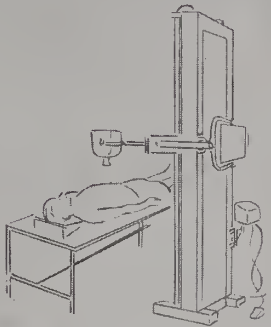

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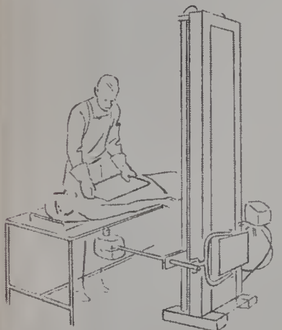

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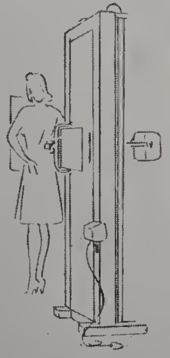

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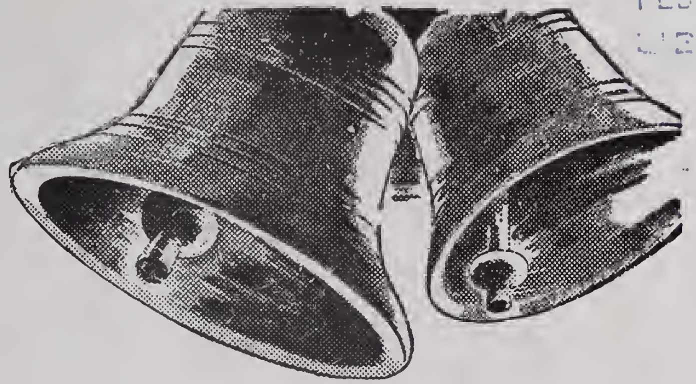

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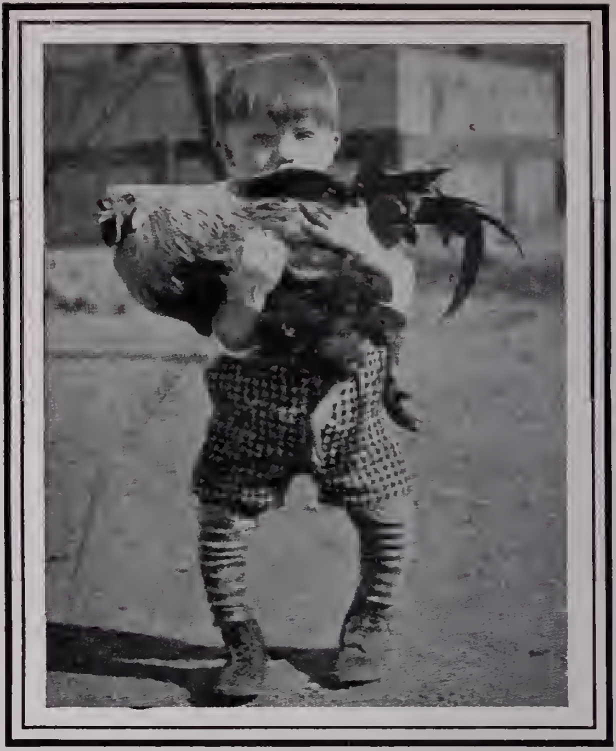

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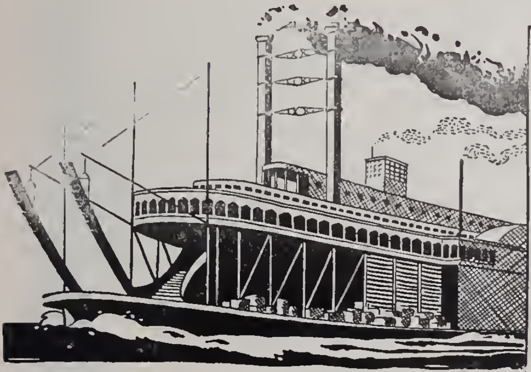

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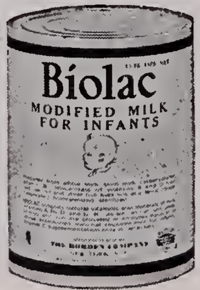

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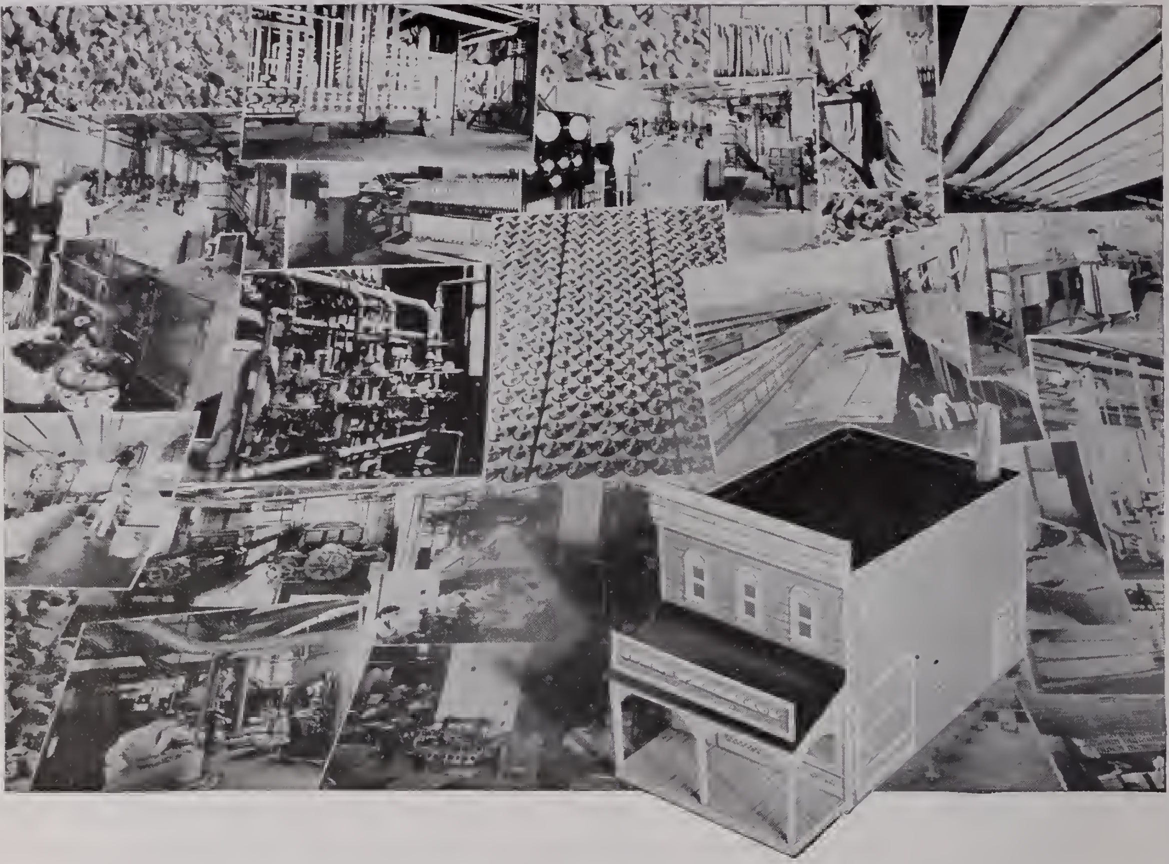

WILLIAM JONES, PH.G.

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The Diagnosis and Management of Acute Craniocerebral Injuries*

JOHN K. TAGGART, JR.
ABERDEEN, MISS.

THERE HAS been in the last several years a marked increase in the number of patients admitted to hospitals suffering from acute head injuries. This increase has had its origin primarily in two facts, the marked increase in speed and universal use of automobiles and other forms of transportation, and in the fact that the average physician is better prepared to handle these cases from the point of view of first aid, consequently more of them reach the hospital for treatment. Approximately 125,000 to 130,000 skull fractures occur annually in the United States. It is obvious from this figure that the neurosurgical clinics are entirely inadequate both in number and in location to care for this volume of injuries. The problem therefore becomes one of the neurosurgeon when one is available, or as is more often the case, the general surgeon due to lack of neurosurgical facilities. For this reason, if we are to make any progress in lowering the mortality from these injuries, the general surgeon must become thoroughly conversant with the diagnosis and management of these cases. It is also of extreme importance that the general practitioner know the common and accepted principles in the first aid treatment of head injuries. There are some controversial points in the general management of an acute head injury, but these are minor and the general scope and outline of the basic treatment has become fairly well developed and standardized.

A patient suffering from an acute head injury should be moved at once to the nearest available building or dwelling if there are no other injuries that contraindicate such a move. First aid at site of the injury is usually valueless and merely increases the time before the patient will be seen by the managing surgeon.

After moving the patient, the blood pressure should be determined. If shock is present treatment should be instituted as soon as possible. In case of severe bleeding from the scalp, this may be controlled by pressure or by application of a tourniquet around the head. Simple pressure will usually suffice.

Every physician dealing with head injuries must realize that he is facing a potentially serious situation and one that may require immediate emergency surgery. For this reason and after treatment of shock, if treatment is necessary, the patient should be at once transported to a hospital with the proper equipment for major neurosurgery. The decision to move the patient should not be delayed, since in many of these cases more or less immediate surgical intervention is the treatment of choice. In transporting these patients unless shock is severe, in which case it should be treated before an attempt is made to move patient to the hospital, the patient's head should not be lowered. Bleeding from the scalp and from the brain itself is increased by lowering the head as is the secondary brain edema which follows shortly after the injury. This is a result of an increase in venous pressure incident to lowering of the head. Therefore, in the absence of contraindications, it is usually wise to allow these patients at least to lie flat or slightly elevate the head of the stretcher on which they are lying.

One of the earliest and most difficult complications with which we have to deal in acute head injuries is a hyperthermia. The production of the hyperthermia is due in a large part to a peripheral vascular constriction with a resultant decrease in heat loss. It has been axiomatic that in the treatment of shock heat should be applied. The efficacy of heat in the treatment of shock of any type is open to question and certainly in an uncomplicated head injury its use may precipitate an early crisis which otherwise could have been avoided. The patient should be covered from exposure and adequately protected against cold. Applications of hot water bottles, covering with blankets, etc., should be avoided. On the arrival at the hospital the history taking and examination should be at first confined to the securing of certain essential details and demonstration of the same type of signs.

---

*Read at Northeast Mississippi Thirteen Counties Medical Society, Amory, Miss., September 14, 1943.

No significant head injury occurs in absence of some period or type of unconsciousness. The difficulty of securing such a history is due to the fact that it is related in terms of one's own experience. We are all familiar with the numerous examples by means of which confusion arises in the use of the term unconsciousness. The case of a football player who, injured during the latter part of the game, finishes the game, and then later that afternoon or evening suddenly begins to ask the outcome, whether or not he played and all the details of the encounter, is an example in point. This man has been acting normally to all outside appearances but at the same time has had, during that period, a rather profound alteration in his state of consciousness. Consciousness exists in its purest form when all the component parts of an organism are operating at an optimal level. Thus it is possible to have wide variations in the consciousness of any one individual. Faulty observation on the part of onlookers is a source for much error. The future treatment of the case depends in a large measure on the surgeon's obtaining or not obtaining a history of unconsciousness of some type. The conscious or lucid interval occurring between two periods of unconsciousness is extremely important because in its purest form it indicates the presence and increasing development of, usually, an extradural hematoma, occasionally a subdural hematoma, and in any case an acute surgical emergency. If the patient is seen some time after the accident it may be difficult to secure a history due to the pre- and post-traumatic amnesia that commonly accompanies these injuries. A few other facts should be brought out in the cursory history; bleeding from the ear or the escape of cerebrospinal fluid from the ear or nose is indication of a basal skull fracture. The occurrence of convulsions and the type of convulsions, whether generalized or localized and if generalized the pattern of the convulsion may be a great aid in the localization of an acute subdural hematoma.

In the examination of these patients the first procedure should be the establishment of the blood pressure. This is extremely important in that the early states of acute increased intracranial tension the blood pressure has a tendency to rise with a corresponding drop in the pulse rate and an increase in the temperature. This is perhaps best illustrated in an extradural hematoma and is due to a compensatory medullary reflex mechanism by means of which blood is supplied to the medulla in spite of the increased intracranial tension. Determination of the blood pressure is useful of course in determining whether there has been any serious bleeding to the outside. The next examination should consist in determining whether or not there is injury other than the head injury that might be serious in itself and require more immediate treatment. Following the determination of the blood pressure the question as to whether or not the injuries afford an entrance through the meninges to septic organisms must be settled. In those cases in which the dura is torn the problem immediately becomes an emergency and one of much more potential significance.

Next in order should be an attempt to determine the site of the maximum brain injury, and general clues to this will usually be found. The exact localization of the maximum brain injury is very rarely possible and perhaps the best one can hope for is lateralization of the lesion without too much regard to its anterior or posterior position. By and large it will be found that pyramidal tract signs are extremely unreliable. This is especially true in cases of extradural hematoma when as a result of pressure on the brain the contralateral cerebral peduncle impinges on the incisura of the tentorium and gives rise to signs from the opposite side. Dilatation of the pupil is also an unreliable sign. In fact it is not uncommon to observe in a severe brain injury first one and then the other pupil dilated. A stiff neck in the absence of injury to the cervical vertebrae usually indicates, in the first 48 to 72 hours, blood in the subarachnoid space. After 72 hours the presence of infection must be considered. Extreme emotional lability after a reasonable period following a recovery from unconsciousness is suggestive of an injury to the frontal lobes. A profound coma resembling deep sleep with regular slow and even respiration is usually indicative of an injury in the region of the hypothalamus and carries a grave prognostic significance. Aphasia either of the motor or sensory type, if it is known whether the patient is right- or left-handed will be valuable in lateralizing the injury. A facial palsy of the central type may also be quite useful. Complete blindness with loss of the light reflexes indicates a lesion anterior to the optic chiasm. It usually takes from one to two weeks for papilledema to develop to the point where it can be readily appreciated and for this reason examination of the fundi does not offer much aid. Generalized muscular rigidity sometimes associated with mild convulsions usually indicates a lesion in the midbrain. The site of injury as evidenced by external lacerations, etc., can be helpful. However it must always be remembered that a fairly large percentage of these cases shows the so-called contra coupe phenomenon.

Having determined more or less the nature and localization of the injury the prognosis is of course the next thing that arises in the physician's mind. The two best indicators of the severity of a head injury are the type and depth of coma and the type and rate of respiration. During the first twenty-four hours following a head injury increasing coma is a grave prognostic sign and when associated with general muscular flaccidity and relaxation of the sphincters the prognosis is hopeless. Sudden fixed dilation of the pupils is usually a terminal event. Progression of the respiration from stertor through periods of irregularity followed by more or less Cheyne-Stokes breathing points to an unfavorable outcome. Sudden and extreme elevations of the temperature are apt to appear terminally. On the other hand periodic emptying of the bladder, an increase in the amount of motor activity, and moaning and defensive reactions are apt to be associated with the lessening of the coma. Vomiting is extremely hard to interpret and may or may not mean a marked and rapid increase in the intracranial tension.

Head injuries may be conveniently classified into two types, the operable and the nonoperable. The former will comprise approximately thirty-five per cent of all cases while the latter will account for the remaining sixty-five per cent. From these figures it can be seen that approximately one third of these cases will require surgery of some form.

I first want to discuss the non-operable group of head injuries. This group comprises, first, the simple concussion, second, the cases showing edema and congestion, and third, lacerations of the brain. In the first type, simple concussion, the history is usually that of a short period of unconsciousness followed by a rapid recovery and return to normal. Other than the presence of coma no abnormal signs can be elicited. These cases require no treatment and the mortality is zero.

The type characterized by edema and congestion of the brain is merely an increase in the severity of the trauma to the brain. These cases are characterized by a much longer period of unconsciousness and may show any or all of the neurological signs enumerated above. Blood in the subarachnoid space may or may not be present and there may or may not be an associated skull fracture. The treatment of this condition is dehydration by means of intravenous hypertonic fluids and/ or lumbar puncture plus of course the treatment of any associated scalp or bony lesion. Laceration of the brain constitutes a more serious problem and one more difficult to manage due to the fact that the brain injury in these cases is always severe. The symptoms are those of profound unconsciousness lasting many hours, even days or weeks, associated with any or all of the various neurological signs depending on the location of the injury. Blood is always present in the subarachnoid space in varying amounts. Treatment of lacerations of the brain lies in the exclusion of one of the group of operable injuries followed by dehydration and drainage of the subarachnoid space. The old postulate that it is harmful to do spinal puncture in the face of cortical bleeding has now been disproved and in many of these cases marked objective and subjective improvement will occur when the spinal fluid pressure is lowered and as much of the subarachnoid blood has been removed as is possible. Lumbar puncture may be repeated as often as necessary to control the pressure. It has been repeatedly demonstrated that blood in the subarachnoid space increases the intracranial tension to a marked degree. Complete accord as to the mechanism of this rise has not been reached, however it is probably due to the mechanical blocking of the subarachnoid villi. The usual methods used for the case of comatose patients are appropriate in these cases. In passing it might be well to mention the Monroe Tidal drainage apparatus which is extremely useful in the prevention and treatment of the frequent cystitis and pyelitis that accompanies repeated catheterizations.

The operable group of cranial cerebral injuries consists of compound fractures with or without depressed fragments, the extradural hematoma and the subdural hematoma.

Compound fractures occur as a result of direct violence and may or may not show a depression of some fragments. In a large majority of these cases the dura is torn. The symptoms of a compound fracture are those of the underlying brain injury and the signs also depend on that condition. The diagnosis of a compound fracture is made with most certainty by the palpation of the skull with the sterile finger. A sterile instrument may be used for this purpose but is unreliable. X-ray, while it will show the pathology, is more or less useless since palpation and direct vision will give a much clearer picture. Compound fractures should be repaired within twenty-four hours unless there are other contraindications. In a repair of a compound fracture all loose and non-viable bone should be removed. The wound should be thoroughly débrided and the underlying cortical tissues should receive the same treatment. An exhaustive search for a foreign body in the case of a bullet wound of the head is in all probability not justified. Indeed a great deal of harm may result from imposing on the already contused and lacerated brain on extensive exploration. Following the débridement of the wound and the cortical tissues the dura must be closed without drainage and the scalp approximated with two layers of black silk sutures or the equivalent. There is no emergency attendant upon the elevation of a depressed fracture unless there is evidence of a dural tear. These fractures may very well be left for five or six days until the patient's general condition permits an unhurried procedure. The technique of elevation of a depressed fracture consists in the placing of a burrhole adjacent to but not involving the fracture line and rongeuring away, preferably with a DeVilbiss forcep, the bone surrounding the depression and the gentle elevation and removal of the bone. The after treatment of these cases will depend entirely upon the underlying brain pathology.

Extradural hematomas constitute approximately five per cent of craniocerebral injuries and carry a much higher mortality than any of the other groups. In a series of cases reported from an excellent neurosurgical clinic the mortality of this type of injuries was fifty-five per cent. Extradural hematomas are the result of bleeding into the extradural space. They occur when there is a tear in the meningeal or the dural vessels.. The formation of the hematoma leads to compression of the cortical tissue and gives rise to the various symptoms and signs. The classical symptoms of an extradural hematoma are as follows: There is a period of unconsciousness variable in length but usually fairly short followed by a period in which the patient seems normal. There may be no evidence during this so-called lucid interval of any type of cerebral hemorrhage. The patient later becomes drowsy, uncoöperative, shows manic delirium, and gradually lapses into coma which becomes increasingly severe, and death will follow unless operative intervention is undertaken. The signs of an extradural hematoma other than those mentioned above are very variable and these cases may show anything from a complete flaccid hemiplegia to a more or less paucity of neurological signs. X-ray of the skull is very important in these cases. If an extradural hematoma is suspected and an x-ray of the skull demonstrates a fracture line crossing the meningeal vessels or the dural sinuses, operation is justified. The operative procedure in itself is relatively simple. A burr hole is placed through a transtemporal approach and the defect enlarged to the size of a fifty-cent piece. The clot is then sucked out and the bleeding points identified and controlled. The middle meningeal artery will usually offer no difficulty and may be controlled by means of a silk ligature, a silver clip, or coagulation. The dural veins will at times present a slightly more difficult problem technically but can usually be adequately closed by means of muscle clamps. In most of these cases it is best to do an extensive sub-temporal decompression in order to help relieve the extreme cerebral edema that follows the removal of the clot. Intravenous hypertonic fluids and lumbar puncture will also be of much benefit in the postoperative control of these patients.

Subdural hematomas constitute approximately fifteen per cent of all craniocerebral injuries. Subdural hematomas occur when there is a rupture of a cortical vessel with bleeding in the subdural space. They consist of three types, the solid, the mixed, and the fluid hematoma. For the purpose of this paper only the acute subdural hematoma will be considered and this is of course, fluid. The symptoms are those of the underlying brain injury. There is usually a rather extended period of unconsciousness with neurological signs pointing toward the area involved. The diagnosis of acute subdural hematoma is made by exclusion since there are no pathognomonic symptoms and signs of this condition. Failure of a patient to improve when such improvement can be reasonably expected or on the other hand a deepening of coma or increase in the gravity of the patient's illness will be the indication for an exploration of the subdural space. Subdural hematomas occur bilaterally in twenty to thirty per cent of cases and this must be remembered since release of one hematoma may produce no improvement, but improvement will promptly follow operation on the other side. The operative technique is again in itself not difficult. A burr hole is placed through a transtemporal approach and the defect enlarged to a suitable size. The dura is then opened and the subdural space explored widely. Gentle irrigation of the subdural space will suffice to remove the hematoma and then the bleeding points on the cortex can be controlled by means of a silver clip or coagulation. Again I would like to emphasize that if an exploration of the suspected side is negative the other side should be promptly explored. Blood is usually present in the subarachnoid space in subdural hematoma and is a result of a tear in the arachnoid membrane. Recurrence of a subdural hematoma does occur but is rare. However if a patient fails to improve after operation and if the status of the opposite side is known the surgeon should not hesitate to reexplore the subdural space. The use of rubber drains in the subdural space is controversial. If the bleeding points can not be completely controlled it is perhaps wise to use a small rubber tissue drain for twenty-four hours. If the operator feels that hemostatis has been adequate no drainage is necessary. The postoperative care of subdural hematomas is much the same as that of extradural hematoma with the possible exception that it might be wise to allow these patients to lie flat in bed rather than have the head of the bed slightly elevated in order to facilitate the closure of the subdural space as quickly as possible to check any oozing that might occur. In extradural hematoma this problem does not present itself since oozing that may occur will be absorbed by the temporal muscle.

Apart from the above special considerations there are several general principles of the hospital treatment of these cases that should be enumerated. In no other type of injury is nursing care so important. These patients will react violently to any stimulus and for this reason should be kept in a quiet darkened room. Restraints should never be applied unless absolutely necessary. No patient should ever be left alone while in restraints. Use of external heat has already been discussed. It is extremely important that the fluid intake and output be scrupulously recorded since much of the treatment will depend on the use of one of the various methods of dehydration. The food intake will depend entirely on the patient and if no other contraindications, it may be as much and as often as he desires. It is very important in caring for comatose patients to protect the skin at all times. Wet sheets must be removed at once, the skin dried and rubbed with alcohol and powdered. The position must be constantly changed in order to prevent local pressure over a bony prominence. By effective nursing care the patient must be prevented from incurring friction burns from the sheets on the bed. Catheterizations must be resorted to in those cases in which either due to profound coma or to mental instability the urinary function is deranged. Some form of constant drainage is the best protection against infection of the urinary tract in these cases. Laxatives and enemas may be given as needed, some of which may exert an influence through their dehydration properties. I feel that with the possible exception of subdural hematoma as noted above all of these cases should be placed in bed with the head elevated. This tends to decrease the amount of bleeding and secondary cerebral edema. The eyes should be carefully watched for evidences of loss of the corneal reflexes which may result in the development of corneal ulcers. Sterile oil and boric solution is usually quite helpful. In facial palsy massage of the muscles of the face should be begun as soon as possible and should be directed from the corner of the mouth to the external auditory meatus. Permanent palsy must be treated by a form of anastamosis. It may be necessary to suture the lids of the affected eye in the early treatment of a facial palsy in order to prevent the development of corneal ulcers. Escape of cerebrospinal fluid from the ear is treated by drying out the outside of the ear with alcohol and then inserting a small sterile cotton wick into the outer end of the external auditory canal. Repeated lumbar puncture will help to stop this discharge. In those cases where there is a cerebrospinal leak from the nose there is always an associated fracture of the cribriform plate with a small nubbin of dura caught in the fracture line. It is necessary to release the dura and this will promptly stop the rhinorrhea. This is done through a frontal approach and elevation of the frontal lobe and is technically quite difficult and a problem for neurosurgical consultation. As far as drugs are concerned, morphine should never be given to a patient suspected of having increased intracranial pressure. For extreme restlessness luminal or sodium luminal may be very effective, nembutal or amytal may be used. Paraldehyde has been recommended. For the posttraumatic headache codeine grains one half and aspirin grains ten will usually suffice. The most dependable stimulants in these cases are caffeine, coramine, and strychnin. Strychnin in particular will at times result in a dramatic response in awakening a moderately comatose patient. Caffeine and coramine should be restricted to their use as a respiratory stimulant. Blood transfusions will be exceedingly helpful especially during operative procedures and in severely shocked patients. Therapeutic dehydration may be administered by one of three routes, by mouth, by rectum, or intravenously. The only therapeutic effect of dehydration is the reduction of brain volume and a consequent reduction of intracranial tension. Of the three routes the most unsatisfactory is the oral route. This is carried out by administering enough of a saturated solution of magnesium sulfate to produce three or four loose bowel movements a day. By rectum magnesium sulfate is administered in a saturated solution, the usual dosage being about two ounces. This will produce a slow but moderately prolonged dehydration. Intravenous dehydration affords the quickest and easiest method for general use. Several solutions are used at the present time, hypertonic glucose in the strength of fifty per cent, sucrose and even the use of sterile magnesium sulfate. The strength of the sulfate solution used is two per cent and its use should be reserved for those cases of malignant edema. Approximately one hundred cc. are given intravenously over a period of one hour. These patients will occasionally show magnesium shock and will die unless calcium is immediately administered intravenously. Ten cc. of calcium chloride solution containing one gram of the salt should be on hand at all times when this treatment is being used. Sucrose has a great advantage over glucose in that it is metabolized less rapidly and thus exerts its hypertonic effect for a longer period of time. As for the convalescent and after-care of these patients, they may be permitted to resume their normal activities at the same rate as in an illness of any other type, and there is no need in imposing upon a patient who has recovered from a severe head injury a feeling of relative invalidism. Return to normal work and normal habits will greatly facilitate their physical and psychological readjustment.

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The Hookworm Problem Today*

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THERE IS ample evidence that hookworm remains a major public health problem in at least one-third of Mississippi and a problem of considerable importance in another third of the state. It is not necessary for one to delve far into records of control activities to decide that this problem is not receiving the attention its magnitude and relative importance demands. In fact in some areas of high infestation, its control is still in the piddling stage while in others a considerable amount of effort is being put forth to control the problem but without proper coördination of efforts in the different phases of control based upon thorough analysis of the problem. It is now time to take stock of the problem and efforts at control and to determine anew that hookworm shall retreat more rapidly than ever before.

Hookworm cannot be controlled unless sanitation personnel in local health departments have a reasonably thorough knowledge of the parasite, its method of entrance into and effect upon the human body and the methods of control. Its control requires superb, unrelenting salesmanship upon the part of sanitation personnel under the direction of their sales managers, or health officers, who also must know the problem and assume a continuous concerted leadership. You cannot sell your goods unless you know them better than do the buyers and are able to put forth an answer to all sales resistance. For this reason an attempt will be made in this paper to acquaint you more thoroughly with the stock of goods you have to sell—namely, hookworm control in thousands of homes to hundreds of thousands of Mississippians in most communities and counties of the state.

Just what is this parasite — hookworm? What are its characteristics, habitat, factors influencing prevalence, effect on the human body, etc.?

To begin with it exists wherever the soil, rainfall, and temperature are favorable, depending upon the amount of successful effort put forth to alter the factors influencing the entrance of the parasite into the human body. In 1910, 53.1% of the population of the state was infested as shown by widespread surveys by the Rockefeller Sanitary Commission. In 1932-1933, a similar survey revealed that 19.6% of the population still harbored the parasite. In the original survey some areas showed as high as 80% infested and in the last extensive survey in 1932-1933 some areas showed as high as 52.8% of the population was supporting the parasite. School surveys in white children even now in some areas will show as high as 40 to 50% as having the parasite. There should be no satisfaction to this group in looking backward unless it is secured with a conviction that final eradication of the problem is now possible as a result of what has been done and with a determination to shoot more accurately and with greater intensity in the future.

All statistics show that negroes do have hookworm but so infrequently compared to white people that it does not behoove us to worry about this problem in the negroes. Males not only become infested before females but a greater percentage of males have the parasite than do females. Age group distribution of the parasite is quite interesting. Suffice it to say that the 1932-1933 survey of Keller, Leathers, and Ricks showed that the group 0 - 4 had seven to eight per cent infestation and this percentage increased to the highest point in the group 15 - 19 years from whence it declined rapidly. A very large majority of all infestations are in the group 35 years and under.

I mentioned rainfall, temperature, and soil as being factors determining whether hookworm would thrive in an area. An annual rainfall of 40 inches is necessary for hookworms to thrive. The entire area of Mississippi has more than this, usually averaging from 50 to 60 inches. The temperature in all of Mississippi is favorable to the development of hookworm larva throughout most of the year. With suitable temperature and rainfall, hookworm can thrive only where there is a considerable amount of sand in the soil. Soil conditions are favorable for hookworm in all but two general soil areas of the state, the prairie belt and the Mississippi-Yazoo Delta. Most of the cases of hookworm in these two areas have migrated there after infestation.

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The life cycle of hookworm is most interesting and should be thoroughly understood by those who are trying to sell the public on control. The hookworm egg is discharged in human feces upon the soil where rapidity of further development depends upon soil composition and texture, moisture, and temperature. The egg may, under favorable conditions, begin the process of hatching or moulting within a few days after reaching the soil and as it breaks from the shell it is in the process of moulting. Following this it goes through a process of growth and development for 4 to 8 days feeding upon fecal material. At the end of this period it is covered in a loose skin. In this stage the larvae die readily upon drying. However, this is the infective stage and it does not live longer than three months in this stage. It either reaches its host or dies within that period.

Without outside force such as rain or animals the larvae do not migrate more than a few inches from the site of deposition on the soil. These larva crawl upon blades of grass and project the head into the air from the object upon which it rests until its victim comes in contact with it. It clings to the skin and quickly begins its burrowing process through the skin usually between the toes or on some other part of the foot. It may burrow through any area of the skin with which it comes in contact. At the site of entrance through the skin there develops a small papule topped by a very small vesicle or blister at which point there is intense itching and burning. Several larvae entering the skin in a small area cause a larger blister.

Upon passing through the skin it burrows through the wall of lymph channels or blood vessels and in the blood it passes through the heart and to the lungs. Upon reaching the small capillaries of the lungs it burrows out of the capillary into the air sacs of the lungs causing small bleeding places in the air sacs which quickly form a minute clot stopping any hemorrhage. The larva then crawls, with the help of coughing, toward the throat through the bronchi and windpipe. This process causes coughing as a result of irritation. Once in the throat the larva is swallowed into the stomach and finally lodges in the small gut to the wall of which it attaches with its mouth parts and begins the process of sucking blood. One may readily see that the intensity of the initial symptoms of ground itch or the lung symptoms will depend upon the number of larvae traveling the human highway to the intestine simultaneously.

After the immature worm is attached to the intestinal wall is passes through two more for several years before natural death or length of about one-half inch and becomes visible to the naked eye within 3 to 4 weeks. The female is slightly larger than the male and soon begins the production of eggs, one of which may produce up to 16,000 eggs daily.

Where the worm attaches to the mucous membrane of the intestine it bruises its head and pulls part of the membrane into its mouth including small capillaries. From these it draws blood—each worm up to one drop per day. It causes small bloody ulcers which often become infected. These procesess by several worms cause pain in the abdomen. These worms may remain in the intestines processes of moulting and grows to an adult passage from the intestine.

What are the results of hookworms upon the human body? A few worms will cause no symptoms other than the initial ground itch. However, it should be remembered that their diet is blood and few of us have blood upon which to fatten a few unnoticed hookworms. If the body is able to produce blood as rapidly as the body process demands, in addition to some to spare for the few parasites in the gut, no sign of anemia will appear. As the demand for blood by an increasing load of worms increases, signs of anemia will appear. A worm burden of 200 to 300 may cause beginning anemia in some people while in others a much larger number may be required to produce anemia. The degree of anemia produced will depend upon the patient's ability to reproduce red blood cells and hemoglobin and the number of worms present.

In the acute case caused by many worms

entering the body within a short time the symptoms may be burning pain in upper abdomen, sudden loss of strength, shortness of breath, dizziness, pallor, and increasing anemia. In the chronic case the symptoms are the same except the patient consumes food out of proportion to normal need; there is a puffiness of the body, flabby muscles, physical stentin, and lack of energy. In either the acute or chronic case there is a marked reduction in the red cells and the amount of hemoglobin per cell. Death rarely occurs as a result of hookworm in this country at present but the resistance of the patient to other infections is impaired to such an extent that hookworm contributes to deaths ascribed to many terminal cases. Hookworm patients are frequently operated upon for appendicitis by surgeons having a sharp scalpel, sluggish diagnostic ability, and an intense urge to whittle.

Fortunately, the treatment of hookworm is rather simple and frequently produces unbelievable results. There are several effective drugs including thymol, oil of chenopodium, carbon tetrachloride, tetrachlorethylene, and hexylresorcinol. One of the best is tetrachlorethylene given in a dosage of ½ cc. for small children up to 3 cc. for adults and on an empty stomach. This will usually rid the patient of about 80% of the worms present. This does not mean that 80% of the patients will be worm free after one treatment, but that if a patient has 100 worms about 80 will be removed by one treatment. Two, three, or more treatments are required in many to completely rid the patient of worms.

Finding cases and ridding them of worms is of considerable importance, but the most important and lasting method of control is by disposing of human excreta in such way that the larvae cannot come in contact with the skin. The incidence of hookworm is determined by the area of the earth's surface in which hookworm larvae exist and the number of square inches of human skin coming in contact with the infested soil. As sanitation supervisors you hold the "big stick" in the control program, for as the amount of human excreta deposited upon the surface of the soil decreases so will the number of people with hookworm decrease. Wearing of shoes by all people would control hookworm but you have little control over this factor. You can,however, through intensified continuous efforts do the job of selling the population on the idea that a sanitary pit toilet or some other satisfactory method of excreta disposal will not only control hookworm but will have much to do with the control of dysenteries, typhoid fever or other intestinal diseases.

Hookworm control should be approached through the family and community groups found to be infested. It does little good to find and treat a case in a school child who is constantly being reinfested at her home by other members of her family or community. School surveys for hookworm ova will locate the school children with hookworm but when all such children are treated and cured they return to their homes and communities where other larvae from father, mother, sister, brother, or playmate are hungrily waiting for a new victim.

A good sanitation supervision with proper leadership from his health officer and coöperation with nurses will know where his hookworm communities are and will by a house to house privy program break the chain of infection. Certainly the health officer and nurses should see to it that all members of known infested families should be examined and all positives treated until free of the parasite or at least until most of the worms have been gotten rid of. As this is done, certainly some method of excreta disposal which will put the excreta below the surface of the soil should be provided.

Whether case finding and treatment are done or not the disease can ultimately be eradicated by sanitation alone. There are some counties in the state where hookworm is the major public health problem but it is apparent that in many instances efforts are being made to create a state of good general health with too little emphasis on hookworm. In many counties hookworm is limited to circumscribed areas with 25 or 50 infested families. Should such areas not have determined effort at 100 per cent sanitary excreta disposal as well as case finding and treatment? Ten privies for hookworm ridden families are worth a great deal more than ten privies where only other intestinal diseases are invalued.

Hookworm control is first of all sanitation, and second case findings and treatment. Of course, case finding is necessary as a guide in sanitating homes and communities needing control most. You can do no greater service in a community with 15 to 50% infestation with hookworm than to reduce radically its prevalence by a methodical, persistent, safe excreta disposal program.

Allergic Problems in Otolaryngology*

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DURING THE past twenty-five years the practice of otolaryngology has changed remarkably. Unquestionably the one single factor inducing the greatest change has been our increased knowledge of allergy.

It has long been my contention that otolaryngologists should be adequately trained in the diagnosis and treatment of allergic nasal conditions. Perhaps the ideal arrangement may be found in the larger clinics where the otolaryngologist and allergist may work together; yet even with such an arrangement the otolaryngologist must have sufficient knowledge of allergic conditions to make the proper diagnosis and to manage the case. In the smaller cities and in the individual practice of otolaryngology, it behooves the otolaryngologist not only to be adequately informed on the diagnosis, treatment and management of allergic conditions, but to use allergic methods of diagnosis and therapy.

Otolaryngologists not familiar with allergic methods should properly qualify themselves before attempting this work. A short course of training or a period of study at any recognized allergic clinic will provide the opportunity to observe the commonly used methods.

The literature is already becoming voluminous. The one best single paper it has ever been my pleasure to hear was presented before this group by Henry[1] in 1931. *The Primer of Allergy*[2] discusses the principles of allergic methods of diagnosis and treatment in a very understandable manner. This book was written primarily for the laity and I frequently advise patients suffering with advanced allergic disease to purchase a copy for their own information. *Practice of Allergy*[3] is used as a textbook at some medical schools at present. *Clinical Allergy*[4] is another excellent book and *Allergy of the Nose and Paranasal Sinuses*[5] particularly stresses the conditions which concern us most.

The equipment for making diagnostic tests is not particularly expensive. Antigens may be bought in small quantities, but it is most important that the testing set be complete. The pollen testing set should include every toxic air-borne pollen in the entire area. Surveys of hayfever flora and dates of pollination have been made in Memphis by Henry and Herring[6]; in New Orleans by Penfound, Efron and Morrison[7]; in Nashville by Bowie[8] and in Montgomery by Weil; and maps and charts prepared by Brierly and Durham may be found in Vaughan's *Practice of Allergy*[3]. This information is invaluable in making up a testing set. Ordinarily, tests are not made with the heavy, insect-borne pollens (flowers, etc.) but such extracts are available if desired. It is well to include every basic food in the food testing set but there is no need to attempt to include such foods as Brunswick stew, gumbo, etc., and I have eliminated spices, most herbs and nuts from my testing set. Even foods not commonly used should be included, as it may be advantageous to include them in the more restricted diets. The miscellaneous testing set should include all those miscellaneous antigens to which patients may be exposed. Fungi may or may not be included but certainly every otolaryngologist should test for bacterial allergy. These antigens may be purchased in concentrated solutions; the concentrated solution is used for scratch testing but weaker dilutions are used for endermal testing. For scratch testing with pollen extracts I use 1:50 dilution but for endermal testing I use a 1:250 dilution; and use the same concentrations in the miscellaneous set. For scratch testing with food extracts I use a

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1:20 dilution but use a 1:200 dilution for endermal testing. For testing with bacterial allergy I use a group of stock vaccines, undiluted.

Perhaps the one most difficult item to obtain at this particular time would be an electric refrigerator. The antigens must be kept in a refrigerator and the even temperature maintained by an electric refrigerator is more desirable. Most allergists use some modification of the Savonarola chair but an ordinary chair or stool will serve. Most allergists use especially designed gowns for their patients but a surgical gown can be used for the female patient; while the male patients strip to the waist. Vaughan prefers the ordinary biologic teasing needle for making scratches; I personally prefer the point of a knife, using the back and not the blade; but I have observed one physician using an ordinary hypodermic needle. Ordinary tuberculin syringes are more or less universally used; the "special allergy syringe" is merely a tuberculin syringe using only metric measurements and not having the measurements for minimums, to avoid confusion. There is also a special endermal needle which I have not found satisfactory; I prefer an ordinary 26 gauge ½ in. Vim needle.

There are several variations of the technique of testing; the variations are unimportant, except that one technique should be adopted and consistently followed. This permits more accurate comparison. Some prefer to use the back as a testing area while others prefer to use the arm. I use both; making all scratch and all pollen and food endermal tests on the back, and making endermal miscellaneous and vaccine tests on the arms. Scratch tests should *always* be first made with pollen; and if the patient has a severe reaction to the scratch test, the endermal test should not be made with that antigen. Scratch pollen tests have been found quite reliable in cases of seasonal hayfever and many competent allergists do not make endermal pollen tests on such cases; endermal pollen tests should *never* be made during the patient's "season"—it is dangerous. In cases of perennial hayfever or asthma, endermal tests are usually made, following the above precautions. Some allergists do not make scratch food tests; I have always made them, feeling that it is safer to do so and that some further information may be gained. A large variety of miscellaneous antigens are used for scratch testing, but only a few selected tests are used for endermal testing, for the identical reason of safety. Endermal tests, only, are made with vaccines.

Cases that require advanced studies such as conjunctival tests, patch tests, the passive transfer method and leucopenix index should be referred to a competent allergist.

It is presumed that all otolaryngologists are familiar with nasal allergic conditions and, in this paper, no effort will be made to review the literature or discuss symptoms, physical signs or diagnosis. However, let us consider the type of case appropriate for diagnostic testing. Obviously it would be folly to test patients whose financial status would not permit them to follow the prescribed diet. It is not desirable to test patients who are unable to return to the office for supervision. It is discouraging to test patients who will not coöperate and who will not follow instructions.

It is my policy not to advise diagnostic tests unless the allergic condition is severe enough, and the patient has suffered enough, that I can feel assured of complete coöperation.

In the early and mild cases I administer whatever local treatment appears necessary, advise the patient to avoid changes of temperature, irritating inhalants and odors, eliminate highly seasoned and rich foods from the diet and prescribe whatever local treatment and supportive measures I think indicated. Should a case fail to respond to this therapy, further study and consideration is given it.

The result of the diagnostic tests will indicate the type of therapy required in the individual case. Shambaugh[10] considers them under three heads; pollen, foods and dust. To this must be added the miscellaneous group and the bacterial group; and it must be understood that the dust group includes fungi.

The reactions to pollen tests are gradually reliable provided the patient is not oversensitive and is not tested with too many extracts at one time. The 30-minute and 24-hour reactions are noted. By correlating the history of the onset and severity of symptoms with the known dates of pollination of trees, weeds, etc., with the severity of the reaction, a treatment set can be made up and the patient desensitized.

There are three generally recognized methods of treatment; preseasonal, coseasonal and perennial. The preseasonal treatment is started some months before the onset of symptoms. Very small doses are used at first, increasing the amount and strength of extract as the patient's tolerance is increased. Treatment is discontinued at the onset of the season. This method has gradually given way to the perennial method of treatment. The coseasonal method of treatment is commonly used when the patient consults the physician during the hayfever season. Scratch tests are made and a treatment set prepared. The patient is given a daily endermal injection of a very weak dilution of the extract. While this method requires daily treatment, the percentage of cases that obtain relief is very high. The perennial method is started as a preseasonal course of treatment; but shortly before the onset of the season the dose is dropped to approximately one third of the highest previously tolerated dose; and this dose is administered at weekly intervals throughout the season. At the conclusion of the season the dose is again gradually increased and continued at intervals throughout the year until the next season, when the procedure is repeated. If the patient fails to obtain adequate relief this method can be supplemented by the coseasonal method described above. The highest percentage of good results has been obtained by this method.

The patient is always interested in the question of the duration of the treatment. Treatment should be continued until the symptoms are entirely relieved. I usually advise a minimum of three years' treatment and have treated some patients as long as seven years —and it is these cases that have had the best results.

The seasonal hayfever case is primarily a case of pollen sensitivity and desensitization with pollen extracts of primary importance. However, best results will not be obtained unless the sensitivities to foods, dust, bacteria and the miscellaneous group are also considered. Patients will be found who have sensitivities to certain foods which become evident only after their resistance is broken down by pollen; that is, they may eat such foods freely throughout the year, without symptoms, except during their hayfever season; and during that period, if they partake of such foods, their symptoms are more severe. This also applies to dust and the miscellaneous group. Should such a patient be markedly sensitive to house dust, dust extract should be included in the treatment set. Orris root extract can also be included in the treatment set but it is preferable to avoid such antigens as pyrethrum, flaxseed, feathers, cat, dog and horse hair rather than attempt to desensitize the patient to them.

When a patient has a strong reaction to dust it is preferable to use an autogenous dust extract. That is, the patient collects a specimen of dust from the home, office or other places frequented, attempting to obtain the greater portion of dust from the place the greater portion of time is spent; and an extract is made from that specimen of dust. The technique of collecting the specimen and making the extract is described in the books mentioned above but it is most important that the extract be sterile on both aerobic and anaerobic culture. By following this method, any fungi in the patient's home, office, etc., which might cause symptoms, is included in the extract. This extract may be incorporated in the treatment set of cases of seasonal hay fever; in cases of allergic rhinitis it may be desirable to give only the dust extract. Some of my most brilliant results have been obtained by treatment with dust extract.

Some years ago Searcy and Clements[11] became interested in using extract of old cotton mattresses, administered orally, in the treatment of dust cases but my results with it were different. More recently Endo dust has been developed and recommended in the treatment of such cases. I have tested several patients with this dust but have found only a small percentage of cases to react to it. However, in that type of case which does react to it I have obtained fair results.

Those patients showing reactions to vaccines are treated with a series of "cold shots." In reading vaccine tests the 24-hour reaction is the most reliable. One vaccine only may be used, or several may be combined, the reactions being used as a guide. A small injection is given and at increasing intervals, increasingly larger injections are given until the patient has had a series of seven to fifteen, depending on the individual case. Severe local reactions and systemic reactions are undesirable and should be avoided. If extract is being administered, vaccine may be given at the same time but should be given in the other arm. Incidentally, it is my practice to make such tests before giving patients "cold shots," for prevention of colds. Since adopting this method I have obtained much better results.

In perennial hayfever the foods, dust and miscellaneous group are usually of the greater importance, pollens being comparatively less important. The treatment set must be arranged accordingly, giving due emphasis to the most important factors.

At the conclusion of the diagnostic tests the patient should be given full instructions. I think it best to give a typewritten set of instructions covering the general routine and diet, and discussing every eventuality in detail. When given only a "sketchy" set of instructions, the patient usually follows them in a "sketchy" manner. If it is possible to impress upon the patient the importance of following instructions to the letter, better results can be expected. While it is preferable, from the standpoint of thoroughness, to follow an outline in writing such instructions, each set should be written individually.

As all allergic patients are more or less sensitive to changes of temperature, that point should be discussed, and emphasized when indicated. In inhalant cases the various types of dusts and irritating odors should be discussed and the patient advised how to avoid them. If an autogenous dust extract is desired, instructions covering the collection of the dust specimen may be included. If sensitive to any of the animal epithelials, the patient should be so advised and instructed to avoid such contacts. If sensitive to feathers, kapok pillows may be advised; or if sensitive to both, pillow slips of impervious fabrics may be indicated. Every detail must be covered in a thorough manner.

If the patient has seasonal hayfever, the instructions should list the offending pollens, dates of pollination, etc., and contain adequate information regarding the course of treatment.

If vaccine therapy is to be used, it should be discussed.

In discussing foods, a trial diet should be given. I have found it preferable to list the foods the patient *can* eat during the trial diet period; in the discussion, I mention those foods which must be particularly avoided.

A "trial diet" is exactly what the term implies and should be tried for a short period, usually two or three weeks. At the end of that period the diet may be rearranged to suit the case. As a general rule it is preferable to give the patient a very limited diet during the first trial period, attempting to eliminate every food that could possibly cause trouble, and keeping in mind the important fact that the patient must have adequate nourishment even during the trial period. As a rule there is some improvement in the patient's condition during and immediately following the diagnostic tests, and this improvement becomes more marked during the three weeks' trial diet period. At the end of that period other foods are added for a trial period only. Again, the judgment of the physician must be exercised. For example, in trying out foods like tomatoes or potatoes a four-day trial period is adequate; but in trying out the heavier foods like wheat, milk or eggs it is preferable to try them for two to three weeks. Should the trial food cause symptoms, it should be discontinued at once, the patient continued on the previous diet until all symptoms have subsided, when a new food may be tried.

During the trial dieting period I instruct my patients to take one of the balanced vitamin preparations available, as it is impossible for them to obtain an adequate vitamin intake from a trial diet. When indicated, minerals are also prescribed.

While following the advised routine regarding inhalants, foods, etc., the patient should still be given the benefit of any local treatment and supportive measures that would give further relief.

Numerous preparations are used for the relief of the nasal blocking. No other preparation will open a seasonal hayfever nose as quickly as a weak solution of adrenalin or epinephrine; but the reaction is so severe that it is not pleasant to use. Whereas the nasal passages are open for periods of thirty to ninety minutes, at the end of that time the nose is more tightly blocked than before the adrenalin was used and the patient is more uncomfortable. Cocaine hydrochloride in

½% and 1% solutions have been used but the patient is prone to use any form of nasal medication too much and the too free use of cocaine solutions should not be permitted. While aqueous preparations of ephedrine are effective in mild and moderately severe cases of allergic rhinitis, they will not relieve the severe cases and apparently have no effect on severe cases of seasonal hayfever. The same is true of propadrine. I mention ephedrine in oil only to condemn it; its frequent use causes chronic congestion of the nasal membranes. ¼% neo-synephrin spray is quite effective in cases of allergic rhinitis, fairly satisfactory in cases of perennial hayfever and in mild cases of seasonal hayfever. I have found a combination of ½% cocaine and ¼% neo-synephrin solution to be the most satisfactory preparation in cases of severe hayfever. Recently a new drug, privine hydrochloride, has been marketed which is excellent in selected cases. It is an adrenalin-type drug and must not be used in cases with hypertension. It has a more prolonged action and less reaction than any of the other preparations. While benzedrine is very convenient, its use causes temporary rise of blood pressure, occasionally chronic congestion and dryness of the membranes and I do not recommend its use.

Some years ago histaminase was placed on the market. In many ways this seemed the soundest approach of all. It has long been my contention that since hayfever, allergic rhinitis, asthma, etc., are merely the symptomatic forms of the basic allergic disease, the final solution to proper treatment of all allergic conditions would be identical. The use of histaminase is based on the theory that the antigen causes the formation of histamine, which in turn causes the allergic symptoms; and theoretically the histaminase neutralizes the formation of histamine in the body. I have found it to be of definite benefit in many cases and to have no unpleasant effects except in those cases sensitive to pork. More recently anthallan has been placed on the market, claiming superiority in this field. I have tried this product on three cases with good results in one, indifferent results in the second and no results in the third.

In the severe cases of seasonal hayfever ephedrine and amytal pulvules, amesec pulvules include amynophylin and novalene tablets include potassium iodine. Those cases which react poorly or unpleasantly to ephedrine may be benefited by the administration of ¾ gr. capsules of propadrine hydrochloride, which has a similar action.

Many allergic cases will be benefited by the administration of dilute hydrochloric acid, in 5 to 20 minimum doses, given in an adequate quantity of water, after each meal. Potassium chloride has also been recommended but I have not found it as satisfactory as dilute hydrochloric acid. Some patients have an aversion to liquid medicine and acidulin capsules may be used; each capsule contains the equivalent of 10 minims of dilute hydrochloric acid.

Ionization of the nasal membranes should not be overlooked. Several years ago Warwick[12] improved the ionization method of treatment and aroused considerable interest in his method. I could not share the general enthusiasm and note that many physicians who used it extensively at that time have now more or less discarded it. However, it is valuable in selected cases and should be particularly considered in those cases in the low financial income group, and those who cannot return to the office for observation.

Vail[13] reported injecting alcohol beneath the mucous membrane of the inferior turbinates. I used this method on one case; some benefit was obtained, but the reaction was so severe that I do not recommend it.

Of the various forms of non-specific therapy, Farmer[14] considered desensitization with histamine the soundest; and reported an impressive series of cases. He expressed the opinion that the earlier workers used the large doses; in some of his cases, he gives an initial dose of 0.1 gamma. I have tried his method in a few cases with good results in some.

In cases with severe symptoms from inhalants that cannot be avoided, nasal filters may be used. I have not found them satisfactory in severe cases of seasonal hayfever but in cases of mild perennial hayfever the patient may obtain considerable relief.

In conclusion, it is the intent of this paper to remind otolaryngologists that patients are entitled to relief by every known method; that patients suffering with allergic nasal conditions are entitled to relief by allergic methods of treatment as well as otolaryngological methods; and that otolaryngologists should so qualify themselves to treat such conditions.

The Evolution of a Public Health Conscience in Mississippi*

R. N. WHITFIELD, M.D.
JACKSON, MISS.

WE WHO labor in this advanced age of scientific knowledge and opportunities for health and long life should hold a feeling of kindly sympathy for our predecessors, who had few lights for guidance; and whose utterances expressed in laws, or in public addresses often sound simple and irrational in this enlightened generation.

In their day the world possessed but a meager store of information on preventive measures against disease. Outside of recommending isolation, the use of disinfectants about the home, and smallpox vaccination, their hands were tied in the uneven contest against infection and contagion. We might well wonder what would have become of our civilization during the past thirty or forty years had there been no revelation to men of science as to the manner of transmission of communicable diseases.

Only one or two compensating factors prevailed in those early days to prevent widespread and fatal epidemics, and these were principally the lack of good roads and the absence of the means of rapid transportation so common to our present generation.

AROUSING A PUBLIC HEALTH CONSCIENCE

There is often a great chasm between knowledge and the application of knowledge. The masses may be informed with thoroughness with reference to the cause and prevention of a deadly disease, but it takes time for this information to be absorbed and transformed into a well-defined program for arresting the spread of the malady. It was not enough to learn that one form of mosquito was guilty of transmitting yellow fever; that another variety transported malaria; that typhoid fever and diphtheria were preventable through vaccination; that flies were indicted and found guilty of communicating filth-borne diseases. It was necessary that these wonderful discoveries be carried to the minds and consciences of the people in order that knowledge might become synonymous with action against common perils. In other words, it was necessary to hammer home the knowledge gained for the prevention of diseases before a public health conscience could be aroused.

That Mississippi now possesses a public health conscience is evidenced by the splendid coöperation that has been manifested in recent years by the people and the medical profession with the legally constituted health authorities of the state.

It may be of interest to turn back the records of public health in our state for a third of a century, and review the incidents that brought about the birth of a health conscience in Mississippi.

DR. F. J. MAYER

Forty years ago public health activities in this commonwealth were in status quo, as had been the situation for generations. In the year 1908, Dr. F. J. Mayer was employed by the State Board of Health to deliver a series of lectures on hygiene and sanitation over the state of Mississippi. Dr. Mayer made a final report on September 1, 1909, covering a period of seven months during which he delivered an average of two lectures a day to ninety-six school audiences, and ninety adult audiences, having addressed approximately 16,650 school children and 11,875 adults. Quoting further from Dr. Mayer's report he stated: "Imperfect and incomplete as this six months' educational campaign has been, owing to inadequate funds, it has given a quickened impulse to sanitary improvements in many towns of the state; like preaching the gospel truths, it is a work that cannot afford to stop, but must continue in ever-widening circles until the fartherest shore of the state is reached."

GIFT OF THE ROCKEFELLER COMMISSION

There is no doubt but that Rockefeller's gift of $1,000,000,000 to the Southern states in 1910 for combating hookworm disease was the entering wedge of a health campaign in Mississippi, and other states which has expanded and developed from year to year until public health work has taken its place as one of the major activities in the lives of the citizens of this commonwealth.

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*Presidential address, Mississippi Public Health Association, Jackson, Miss., December 9, 1943.

In the latter part of 1910, through the beneficence of this fund, a field force was employed under the direction of Dr. Waller S. Leathers. This group of pioneers in the field of public health visited every corner of Mississippi, carrying the gospel of good health in all of its known phases, and bringing back to health thousands of the victims of a disease which had fastened its tentacles upon the populace of a major portion of the state.

These crusaders did not have the advantages of graveled and hardsurfaced roads, nor did they possess the rapid means of transportation which are now in the hands of a majority of the citizens of the present day. They journeyed in horse-drawn vehicles from spot to spot, through mud and dust, in heat and cold, lecturing by day and by night, and treating the victims of hookworm disease. They did not possess moving pictures for illustrations, but each man carried a portable stereopticon, a bed sheet for a screen, and approximately one hundred slides which depicted facts concerning the fly, the mosquito, the hookworm, and insanitary conditions so prevalent in that day. The campaign was broadened and intensified from year to year for ten or twelve years, gradually merging into full time health units in many counties in the state. The people were stirred as never before to the necessity of preventing disease rather than waiting for treatment after such diseases had appeared.

Between the years 1900 and 1912 the state appropriation to the Board of Health was practically uniform at $7500 per year. Since the latter date the appropriations made by the state legislature for the prevention of disease may be taken as a true index of the confidence of the people in the health program, as it was broadened from year to year in the contest with communicable diseases. From $25,000 appropriated in the year 1912, the climax was reached in 1942 and 1943 when the sum of $330,000 per year was appropriated by the legislature for the use of the Mississippi State Board of Health in promoting health and preventing disease.

In rapid order the various and necessary departments of the State Board of Health were established, and these have rendered service to thousands of Mississippians every year in the warfare against preventable causes of death.

The Bacteriological Laboratory began operations in the year 1910. Its work has broadened and multiplied as the years have passed. It is now an indispensable bulwark standing between the people and communicable maladies.

The office of State Sanitary Inspector was created in the year 1912; the Bureau of Vital Statistics was organized the latter part of that year; while in June of the same year the State Board of Health entered into a contract with manufacturers of vaccines and antitoxins whereby the people of Mississippi were enabled to purchase these biologicals at a saving of practically seventy per cent, enough money, no doubt, to cover the total appropriation made to the State Board of Health for all of its endeavors.

The State Factory Inspector's office was created by law in 1914. On March 1, 1929, the title of this office changed to Bureau of Industrial Hygiene and Factory Inspection. This department is accomplishing wonderful results among the factories of the state.

In the year 1916 Dr. Joseph Goldberger of the United States Public Health Service established the cause of pellagra by experiments on prisoners in the Mississippi penitentiary. The State Tuberculosis Sanatorium was established in the same year. The Department of Child Hygiene and Public Health Nursing was instituted in 1920 under the direction of Dr. Felix J. Underwood, present Executive Officer of the Mississippi State Board of Health.

In the year 1920, also, the Department of Sanitary Engineering was organized by the State Board of Health, which Division has been ably administered by Mr. H. A. Kroeze since its creation. This department has extensive duties to perform in the way of sewage disposal, municipal and rural sanitation, milk inspection, oversight of the fish and oyster industry, and many other matters—all conducive to the health of the citizens of the state.

Full time county health work—the ultimate program of the State Board of Health—was given full impetus in 1920 by the passage of a bill entitled "An Act" authorizing each county in the state to create a department of health—and to authorize two or more counties in certain cases to unite in creating a department of health for the counties so united. From a meager beginning this work has gradually, slowly, and persistently grown until at present, if personnel were available practically the whole population of the state would be enjoying the benefits that follow in the wake of reasonably adequate local full time health service.

PHENOMENAL REDUCTIONS FROM CERTAIN CAUSES OF DEATH

With the establishment of the Bureau of Vital Statistics in 1912 a means of measuring the progress of health work in the states was provided.

The yearly record of deaths from typhoid fever is about the best barometer of the progress or failure of the public health program of any state. Applying this measure to the health work in Mississippi over a period of twenty-seven years, we are gratified to find that we have made marvelous progress in the field of public health.

During the year 1916 there was reported a total of 668 deaths from this one disease. During 1942 only 22 deaths from typhoid fever were recorded, a reduction of 97 per cent. This reduction reflects a well-rounded program of food, water, milk and insect control, and an awakened public health conscience among the citizens of the state.

During the same period of twenty-seven years, there was a 94 per cent reduction in deaths from malaria, another disease which ran riot in the state 30 to 40 years ago.

Diphtheria has been reduced 69 per cent; pellagra 86 per cent; tuberculosis 58 per cent; and dysentery 69 per cent.

In contrast to the above named diseases over which measures of control are known, we had during the past twenty-nine years marked increases in deaths from cancer and heart disease. In 1914 there were 1186 deaths from heart conditions. In 1942 a total of 3169 deaths was reported for Mississippi, almost one of every six deaths reported from all causes combined.

Cancer deaths increased from 554 in 1914 to 1537 in 1942. Many more lives will be saved when we learn to conquer cancer and diseases of the heart.

As a final word, your humble speaker wishes to lay claim to being the oldest in service, if not in years, of the hundreds now engaged in public health service in Mississippi. He was one of that original band of missionaries who, in 1910, under the able direction of Dr. Waller S. Leathers, began to preach the gospel of good health through the length and breadth of the state.

I would not relish now even the thought of retracing those paths I trod a third of a century ago within many counties of our state—through mud and dust, through heat and cold, without an automobile, and seldom knowing in whose home I would spend the night. But I was younger then and my chief satisfaction was in knowing that I was assisting in the evolution of a public health conscience in Mississippi.

Elements of Medical Statistics

III. THE PRESENTATION OF DATA

THIRD OF A SERIES OF SEVERAL ARTICLES PREPARED AS AN EXTENSION OF DR. HARRISON'S LECTURE COURSE IN BIOMETRY AT THE UNIVERSITY OF MISSISSIPPI

V. B. HARRISON, M.D.

The biometrical analysis of medical experiences requires first that the subject of study be clearly defined, second that the object of the study be accurately stated, delimited, and organized, and thirdly that the relevant material be collected, assorted, and tabulated.

After the biometrical data is collected, assorted, and tabulated it should be presented in an appropriate form for study and analysis and for evidence of conclusions drawn from their study. Thus, the presentation of data serves two principal purposes, namely, assistance in the study and support for the final argument. In the first case the assembled data may be quite elaborate, depending upon the nature of the study, but data selected for the final presentation should be carefully chosen and judiciously edited.

The haphazard presentation of pertinent data and the presentation of data irrelevant to the argument should be studiously avoided. There is no infallible rule for the presentation of data. One must arrive at the best method for the case in point by a process of "trial and error"; always keeping in mind the general rule that the presented data must tell a story. However, it is a good practice to present data broken down into a number of small units rather than as a single composite mass. This is especially true with graphs. Nothing is so confusing as a graph with numerous lines criss-crossing back and forth. If a total presentation of data is desirable, it should be accompanied by a "break-down" to support each individual argument. Above all, the presentation of the data should be as simple as the conditions of the study will permit it to be. Always bear in mind that the reporter is trying to "sell" an idea and therefore he should diligently try to reveal and not inadvertently conceal his case.

The presentation of data may take one or both of two forms, namely, tabular presentation or graphic presentation. Both methods can be mathematically accurate. The tabular method lends itself readily to subsequent mathematical treatment, although its data does not readily "catch the eye"; whereas the graphic method accomplishes just the reverse. As a general rule, the tabular form is better for basic data and a permanent record, and the graphic form is better for depicting changes and contrasting events. Relative values are presented better by the graphic method than by the tabular form. In either case it is essential to present the data in some order of magnitude or frequency.

The tables which are of primary medical importance are dichotomous tables, frequency tables, and correlation tables. Another type of table, the work table, is a mechanical device used to simplify the mathematics of biometrical analysis. Of course, the variations on the comparative tables are almost limitless.

The dichotomous table is a double division of data based upon positive and negative attributes of a single category. The introduction of additional categories provide appropriate double subdivisions until all categories of like and dislike attributes are exhausted. The double dichotomous table permits a cross classification of data in terms of two sets of positive and negative attributes. The master table is a more complex arrangement of the double dichotomous table which permits the full presentation of the total data on a single problem or question. The master table is usually used as a method for tabulating crude data, but due to its cumbersomeness it is rarely used as a method of presenting data in its final form. The general use of punch-cards is gradually replacing the master table as a method for containing the total data.

Nearly all data, but especially single category data, can be arranged in class frequencies. It is almost an essential step in biometrical analysis to arrange the data in a seriated order of magnitude without regard to the order of sequence of observation. In cases of small series of observations no classing may be necessary, but in cases of large series of observations some type of classing simplifies both the presentation and analysis of the data. The class unit or interval should not be too small else the data will approach the limits of individual observations, nor should the unit be too large else it will approach the limits of the massed data and defeat the purpose of classing. The choice of the class unit and the number of classes will depend upon the data being handled; experience and a general inspection of the central and dispersal tendencies of the data will suggest the proper grouping to be used on the data.

The correlation table is a double frequency table with the frequency of one attribute of the data arrayed on the ordinate and the frequency of the second attribute of the data arrayed on the abscissa. The correlation table may be used both as a work table and as a presentation table. However, the information given by a correlation table can be better presented by graphic methods.

There are a number of methods for presenting data graphically but the methods best suited to medical use are the ogive, polygon, histogram, bar graph, pie graph, and scattergram. The spot map, the statistical map, and the nomogram have special applications in medicine.

The ogive is a line graph connecting the ordinates of absolute values arranged in an ascending order of magnitude on an abscissa of an arbitrary scale. For example, if the heights of a large number of people are arranged in an ascending order of magnitude, a head-height curve would be obtained similar to the results obtained by grouping the individuals in a straight line against a wall. The ogive is not a natural curve. The ordinate points are real in that they represent inches in head-heights but the abscissa is arbitrary. In the case of individuals stood in a line it is conceivable that the abscissal scale unit would be the average width of the individuals. If a constant proportion was maintained in a graph scale, the ordinates would fall so close together that the purpose of such a graph would be defeated. Therefore, an abscissal scale is chosen commensurate with the number of observations to be presented. That is, in the case of a few observations the scale unit in linear measurement would be larger than it would be in a case where numerous observations were to be plotted. As the abscissal scale unit represents one individual the points on the inter-coordinate line have no values, because a fraction of an individual does not exist. The line connecting the ordinates serve only to direct the eye of the examiner.

The polygon is a line graph connecting the ordinates of a frequency distribution plotted on an abscissa of the frequency class scale. As each class frequency embraces a range of values the mid-class point on the linear scale of the abscissa is assumed to represent the average value of the observed frequency in that class and, therefore is chosen to represent the abscissal value of the frequency ordinate in point. For example, suppose that we have measured the heights of 1000 college boys and arranged the data in a frequency table whose class unit is two inches. In making a graph of this data we come to the class "60-61.99" and find that it has a frequency of 20 (The number of individuals whose heights are in the range 60 to 61.99 inches). Obviously, there is no question of the value of that ordinate; it is 20 on the ordinate frequency scale, but we have previously selected a quarter of an inch on the abscissal scale to represent a class unit, so where shall we plot the abscissa? That is, the linear length of the abscissa represents the height-in-inches range of the 1000 college boys' measurements. At what point, then, in the linear range of class "60-61.99" shall we set the ordinate of frequency 20? If we set it exactly on the dividing line between the class "58-59.99" and the class "60-61.99," that would suggest that those 20 students were exactly 60 inches tall, and such is not the case. If we set it exactly on the dividing line between the class "60-61.99" and class "62-63.99," that would suggest that those 20 students were exactly 62 inches tall, and such is not the case. As the class "60-61.99" means that the height of the 20 students was at least 60 inches or more, but less than 62 inches, we assume that the average height of the 20 students was 61 inches. Thus, we solve our dilemma by choosing 61, or the mid-class value of "60-61.99," for the abscissal value of the class frequency. However, as in the ogive graph, the inter-coordinate line has no value but merely serves to direct the eye of the examiner.

In addition to its use as a frequency graph the polygon has other applications. A modified frequency polygon is sometimes used to illustrate the frequency or incidence of an event with respect to time. For example, such a polygon can show the incidence or prevalence of typhoid fever in a community over a period of years. Here again, as with the above example, the ordinates or numbers of annual cases must be plotted at the mid-year interval to denote the spread of the accumulated cases over the whole year. More commonly, however, the cases are expressed as rates and the rates are plotted as ordinates.

The polygon graph may be arithmetic or semi-logarithmic. In the former the ordinates have arithmetic values, whereas in the latter the ordinates have logarithmic values. The semi-logarithmic polygon is especially useful for showing rates of changes in comparing different categories of things. For example, suppose a community experienced in 1900 a white and colored tuberculosis death rate respectively of 150 and 450 per 100,000 specific population, and in 1940 these respective rates were 50 and 150. It is obvious that the tuberculosis death rates have declined by 66.66% in both races, and an arithmetic scale polygon would show this fact accurately, but without analysis and merely on inspection the unwary examiner will obtain the impression that the rate of improvement in the colored race is greater than the rate of improvement in the white race. A semi-logarithmic scale would show the facts in the case just as accurately as does the arithmetic scale, yet it would correct the false impression given by the arithmetic scale.

The histogram is a block or area type of graph in which each ordinate, or in the case of frequency classes, each group of ordinates have concrete geometric values. In an ungrouped distribution each observation is assigned a unit on the abscissa and a unit on the ordinate; that is, in the case of head-height measurements, each ordinate-abscissa rectangle unit represents a man-inch. The frequency histogram plots the average value of the class frequency for each unit of the class frequency instead of plotting the average value of the class frequency at a mid-class abscissal value, as with the frequency polygon. The result is a class rectangle and a series of class rectangles for the whole graph. In many respects the frequency histogram is superior to the frequency polygon. For example, the frequency histogram permits regrouping, massing of groups, and subgrouping of frequencies as long as certain fundamental rules are observed. The chief rule is that the area of massed groups or subgroups, as the case may be, must equal the area presented by the total number of frequency units.

The bar graph is a modified histogram which shows the frequency of isolated categories, such as the frequency of certain symptoms in a given number of cases of a disease. Because the abscissa has no value in a bar graph, that is, no continuity of value, the frequency blocks or rectangles are separated. Such separation of individual frequency blocks distinguishes the bar graph from the histogram whose abscissal units are contiguous. As each abscissal unit in a bar graph has an independent significance any order of arrangement is permissible. Therefore, to make the graph most effective the frequencies should be arranged in some graduated order of magnitude. As a general rule, a descending order of magnitude is the most effective arrangement, but there are cases where an ascending order of arrangement would be more forceful.

The pie graph is a sectional graph of a circle which shows the relationship of the parts in terms of the whole. It is used more often in commercial statistics than in biometry, although it does have its usefulness in biometry.

The scattergram is essentially a correlation table presented graphically, and it has about the same significance as the correlation table. The scattergram is used mostly as a preliminary step in studying data, however it does portray rather vividly the correlation of data. The best way to show correlation of data graphically is by plotting the regression lines of the correlated data.

Finally, a physician who reports his experiences does so principally because he wishes to "sell" an idea to his colleagues in the profession. Therefore, it behooves him to display his idea in an attractive and convincing manner. In the words of St. Luke: "No man, when he hath lighted a candle, putteth it in a secret place, neither under a bushel, but on a candlestick, that they which come in may see the light."

Doctor, Doctor

Doctor, Doctor, grab your grip.
Hurry, hurry, please!
Everybody's sick in bed
With this dread disease.
Everybody's down with flu,
Tell me, Doctor, what to do.

Daddy's just about to die
By the way he bawls.
All the kids are joining in
With their whines and calls.
Tell me, Doctor, what to do
With a flock in bed with flu.

Not a nurse for love or gold,
Neighbors keep away,
I am dead upon my feet,
Dosing night and day.
Hurry, Doctor, hurry, please—
Wait a minute till I sneeze.

Send along a batch of Japs
With our tanks and guns;
With a pack of Huns,
We can turn them into scraps
But there's nothing we can do
Without doctors, for the flu.

DAVID E. GUYTON,
Blue Mountain, Mississippi

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Mississippi has a shortage of doctors. This shortage will continue to grow for a number of years. More than half of the doctors practicing in the state now are past sixty years. It has been ventured by some that requirements should be lowered in order to increase the number of doctors entering practice. This is unthinkable and should not be considered as a reasonable solution.

Mississippi has had a two-year medical school and a good one for many years. But the indications are that the two-year medical school has about served its day. Only two boys out of five who take the two years we offer find their way back to Mississippi to practice. Several reasons may be advanced for this. First, the large medical schools tend to teach the boys away from the small town and rural community. Instruction is given in terms of expensive operating rooms, interns, nurses, charts and patient number, office hours and practice by appointment only, with a good portion of time left for golfing and night life. Specialization is encouraged, with a resultant emphasis in the mind of the student being placed on the size of the fee he is able to extract. Big opportunities are open around the larger medical centers in the cities and the young M. D. feels no urge to return to Mississippi or any other rural section to begin practice. And yet the democratic arsenal, the best in the American way-of-life, the Anglo-Saxon blood, the hope of world freedom, may be found chiefly in the small town and rural community, especially in the South. The southeastern part of the United States is producing twice as many babies proportionately as the crowded sections of the East. This presents a problem big enough to challenge organized American medicine. Large medical centers and the concentration of the profession in these places will not solve the problem. Affiliation, decentralization and an equitable distribution of the medical profession, plus government aid and philanthropy, will solve the problem. The time has come when medical science must take a more active part in the social and economical life of the people, looking to the building of total health assets, mental and moral as well as physical.

There are about a hundred hospitals in the state. Every county has a hospital or adjoins a county that has one, with possibly one exception. It supports a per capita distribution of funds for the indigent sick. The principle of this is that if an indigent person is acutely ill he may go to the hospital of his choice and choose whatever doctor he wants, the hospital bill being paid on a cost basis by the state.

As we see it, the setting is adequate for a four-year medical school and internships that would furnish our state and other states and nations with the very best trained doctors to be found anywhere.

Jackson, Mississippi, is a rapidly growing city located at the crossroads of the Deep South. It is also centrally located in the state. Should a four-year medical school and a large charity hospital equipped with three to five hundred beds be located there, the Sanatorium only fifty miles away, recognized as one of the best in the nation, together with the Mississippi State Hospital for the mentally ill, already in Jackson, would provide a set-up that obviously could function with the fine system of hospitals throughout the state. A close affiliation between these small hospitals and the larger institutions would furnish internships and the training of nurses. Thus fitted to serve, doctors could make medical history in our nation. The central hospital should be a clearing house for the small ones. An ambulance service could be maintained by the medical school to transport the cases referred by the smaller hospitals. This system should include care for the colored, since we have at least three negroes to one white dying of tuberculosis in Mississippi each year. Expansion of the service would include district substations for the prevention and treatment of tuberculosis, venereal disease, and mental disorders.

Such a set-up should exist under a non-political board which could function for the good of all without interference from every political wind that blows.

It is gratifying that Governor Bailey has recommended a four-year medical school and we believe he will favor a non-political board to handle the medical school and all the state supported hospitals and other institutions. It seems that it would be well to locate the State Board of Health on the ground with the medical school. The State Board of Health and the medical school could train greatly needed technicians for the practicing doctors over the state. The same might be true of public health nurses.

The field of service for a four-year medical school in Mississippi is really white unto harvest. We only need the vision to see and the courage to go forward. America is soon to be the Mecca of the world for medical education. Let Mississippi be ready to meet these opportunities with real service, free and democratic medicine, imbued with a medical soul and a missionary heart.

Interpreting Medical Literature

PEDIATRICS

"Care of the Premature Infant in General Practice," Harold E. Farnsworth, Journal of the Iowa State Medical Society, 33:412 (September) 1943.

"In discussing the care and management of the premature infant, the writer considers all infants premature who are born before the thirty-sixth week of gestation, who weigh less than 5½ pounds and are less than 19½ inches in length. "These infants all differ physiologically and anatomically from a full term infant of normal weight. All infants of low birth weight are not necessarily premature; this low birth weight may be an inherited characteristic. Neither are all premature infants below the average weight of a full term infant." However, full term infants of low birth weight and prematurely born infants require special care, and in the following paragraphs those prematurely born infants and immature full term infants coming under the weight classification previously stated are considered as premature.

The author says that prematurity is usually an emergency condition, frequently a precipitate birth. When possible, one should be prepared for premature birth, because often preparedness means the difference between life and death. In case of a precipitate. premature birth, one should know the fundamentals of care of the infant. When the possibility of a premature birth is expected, one is, of course, prepared. Two things are of predominant importance at this time: First, prevention of chilling or exposure over too long a time, and second, asepsis.

It is stated that in the nursery or in the delivery room the incubator or equipment should be kept at a temperature of 98 degrees, or some other form of emergency container should be utilized in which this temperature may be maintained.

'Immediately upon birth the infant should be placed in a premature pack, which is made of a sterile absorbent cotton pad covered with two layers of gauze. If these are not available, the infant should be covered so that it will suffer as little chilling as possiblbe. If conditions permit and there is no maternal emergency, the cord should be allowed to pulsate for as long as two or three minutes before ligation, during which time the baby will receive from one to two ounces of extra blood. Upon ligation and severing of the cord, the infant should be placed in the incubator. A soft absorbent diaper should be placed at the buttocks to catch any meconium or urine.

"Extreme care should be used at the time of delivery to remove mucus from the air passages by a rubber suction bulb or, if available, a catheter attached to a faucet aspiration set; a French No. 14 is usually used. The head should be held dependent so that secretions and mucus which accumulate in the respiratory passages may drain out. However, if there is a possibility of intracranial hemorrhage, the infant should be placed in the horizontal position.

"Premature infants should not be bathed during the first 10 days of life. The eyes, ears, and nostrils should be cleansed with normal saline, and touching surfaces of the body should be cleansed with antiseptic baby oil. Care should be taken to remove thoroughly all excess oil in order to prevent any maceration of these surfaces. During the first 16 hours the baby should be under the constant observation of the nurse in charge, since during this time cyanosis, respiratory difficulties, convulsions, pallor, or hemorrhage may develop. In such event, resuscitation should be started immediately and performed within the incubator.

"In maintaining the body temperature of the premature infant, it is essential that the temperature be taken every four hours the first few days. After that, twice a day is often enough. The body temperature of the premature infant should be maintained between 98 and 99.6 degrees. Body temperatures below 98 degrees over long periods of time are considered more hazardous than temperatures slightly above 100 degrees. It will be necessary to maintain the temperature of the incubator at 80 to 86 degrees or even higher, depending in each case on the amount of heat required to maintain the temperature described above.

"All premature infants should be watched carefully for attacks of cyanosis which occur during the first few days of life, and especially during the first 16 hours. These attacks are prone to develop suddenly and without warning, especially in the group of infants below 3.3 pounds birth weight. If the premature infant is cyanotic but breathing after removal of any mucus, oxygen 100 per cent may be used to good advantage.

"The use of vitamin K has aided immeasurably in the treatment of hemorrhage diseases of newborn infants and should be routinely used in all premature babies for three days beginning as soon as the infant takes anything by mouth. The knowledge that many newborn and premature infants have low prothrombin blood levels makes the use of vitamin K advisable.

"The generally accepted procedure is to let the premature infant rest for the first 16 hours after birth; during this time no fluid or feeding of any kind is given. At the end of this period the premature infants with a birth weight of 3.3. pounds or less should be offered 2 teaspoonfuls of water every two hours during the remainder of the first 24 hours and every four hours thereafter. The amount of the water offered should be increased by 2 cc. each time until 1 ounce is being offered and this amount should be continued for the first 10 days. After the 10 days 3 cc. should be given twice a day, at eight in the morning and four in the afternoon. If the infant has any difficulty in taking the water by mouth, it should be stopped at once and subcutaneous administration started.

The author suggests that on the second day the milk feeding should be started. If breast milk is available, after 1 teaspoonful of boiled breast milk with 2 per cent calcium caseinate every four hours it is increased by 1 cc, each time up to 1¾ ounces; further increase should depend upon the progress made. The addition of the calcium caseinate to the breast milk definitely reduces the number of cases in which frequent liquid stools develop, thus preventing serious fluid loss through the bowels.

The author also suggests that after the second day water should be given every four hours, five times a day; milk should be given two hours after the water feedings, six times a day. After 10 days water should be given only twice a day if the infant is making satisfactory progress.

"Whole citrated blood should be given to all premature infants early on the second day of life. One-third ounce should be given to the small babies, up to 1 ounce to the larger babies. A 3-inch 19- or 20-gauge infiltration needle should be introduced in the subcutaneous tissue in the kidney region and passed up parallel to the spine to the subscapular region. As the needle is withdrawn the blood should be injected, leaving a column of blood along the length of the back.

"Additional fluids should be given routinely on the second day of life, 2½ to 5 ounces of Ringer's solution or Hartmann's solution being given by hypodermoclysis. The needles, 20-gauge intravenous, should be inserted into the inner aspect of the leg just above the knee and passed toward the mid-point of the inguinal ligament. The fluid should be administered very slowly by continuous drip; if the infant is unable to take water by mouth, this method may be continued for several days.

In the premature infant under 4.4 pounds a water-soluble antirachitic vitamin should be started on the tenth to fourteenth day; this may be added to the formula twice daily. At the same time 1 teaspoonful of orange juice should be given twice a day. Ascorbic acid, 25 to 50 mg. each day, may be used if orange juice is not tolerated. Premature infants over 4.4 pounds (2000 gm.) may be given one of the cod liver oil concentrates, 10 drops twice daily. The orange juice should be given as in the case of the smaller premature child. No oily preparation should be added to the milk formula since it sticks to the bottle and nipple. In the presence of vomiting or diarrhea, both the cod liver oil concentrate and the orange juice should be stopped for a short time.

"All premature infants tend to have a low hemoglobin and should have a hemoglobin determination made by the fifth week; if low, iron administration should be started. One cubic centimeter of a 10 per cent solution of ferri et ammonii citras for each pound of body weight will give excellent results; this may be given in the formula. Liver extract may be given with satisfactory results. One cubic centimeter of 0.05 per cent solution cupric sulphas may be used at short intervals added to the formula with the iron.

The author says that in conclusion, the cardinal points in the care and feeding of the premature infant in the order of their importance are:

"1. Intelligent nursing on the part of the nurse or mother in close coöperation with the physician.

"2. Maintenance of a proper environment from the moment of birth; avoid chilling, keep body warmth at proper level.

"3. Prevention of upper respiratory infections and skin disorders.

"4. Establishment and maintenance of an adequate fluid intake and feeding regime to assure a steady gain in the weight of the baby."

COMMENT

While we do not agree altogether with all the details of the article above we feel that the subject is of such importance that it is worth while to abstract it for the journal at this time. There are too many prematures lost each year that could be saved if they were properly handled, and certainly any worthwhile suggestion relative to their care is of most importance at any time.

H. F. G.

State Board of Heath

Felix J. Underwood, M.D.

COUNTY HEALTH SERVICE IN WARTIME*

Dr. J. W. Dugger, Chairman
Administrative Section
Mississippi Public Health Association

When the subject of county health service in wartime was assigned to me, I had the feeling that it belonged in the main to counties like Forrest and Grenada, and Wilkinson—counties which have had wartime demands strike them right between the eyes.

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*Presented before the Mississippi Public Health Association, Jackson, Miss., December 9, 1943.

On second thought, however, I can see that the Madison County Health Department, which I have been serving as acting health officer, has felt the effect of war to the degree most common to the greater number of health departments in the state. There are two cantonment areas in the county—which give us plenty of soldiers. We have been called into the work of examining registrants for selective service, as have all of you. Certain of our programs, such as venereal disease control, and malaria control, have been intensified; while other phases, home visiting, for example, have had to give way to more work with fewer people, and to see to it that the gains now being made in certain public health fields are maintained in the post-war period.

You all know what I mean when I talk of the obligation of doing more with fewer people. We have felt keenly the shortage of trained public health personnel since the summer of 1941. Shortages became increasingly apparent as more and more workers joined the armed services and as our public health activities experienced an upward swing. A reorganization in public health approach has been the result. Consideration has, of a necessity, been given to those things which bring the greatest good to the largest number with the minimum of expenditure of valuable time and effort.

Among those wartime activities demanding attention, to the exclusion perhaps of health problems of less emergent nature, are:

Venereal disease control
Control of water supplies
Control of milk supplies
Control of sewage disposal
Immunization, meaning widespread and general immunization of the population with emphasis on typhoid fever, smallpox and diphtheria
Industrial hygiene and factory inspection
Maternal and child health
Food inspection
Dental hygiene
Measures directed against specific diseases such as malaria control, typhus fever
Group teaching—either in conferences, in classes or other groups.

In the past, county health department work ran smoothly enough, as such things go, and our efforts were concentrated upon maintaining a well-rounded program of all public health procedures. Our program extended to individuals through hygiene services such as infant, pre-school, school, and maternity service. These services have gone on, of course, but group activities have had to replace many services directed toward the individual, and in many instances health services that we used to take to the people, are now being sought at the health department by those same people.

Resulting from some of the curtailment of the actual services themselves has been a better understanding on the part of health department personnel of the values of health education. In tying health teachings closer to everyday living, health education has become an increasingly important weapon in preventive medicine, especially in directing community emphasis toward such environment factors as a safe water supply, milk supply, and inspection of all public service places.

The gains that public health has seen in the past two years are reflected in every county. Never before have so many people been tested for venereal disease, and been put under the necessary treatment. Facilities for discovering and treating early tuberculosis have been stepped up, and for the first time immunizations have been given on what approaches a mass scale. This acceleration extends to environment improvements, to better housing, to more and better supervision of milk, food, and water. We see diseases like typhoid fever and malaria reach a new low; and in the face of a rising birth rate, the death rate of new mothers and babies has fallen.

Nor do these achievements result wholly from momentary bursts of speed impelled only by war itself. They represent measurable progress made in a long term fight — the struggle to prevent the preventable diseases. Had there been no public health set-up, no state and county health departments, no health officers, the organizing of this nation for military and civilian health on the efficient scale which it is today, would have been an impossibility. At the same time, we are glad to acknowledge that the Army, the Navy, and the United States Public Health Service have boosted our established program to a degree that would have taken years on our own. We are faced now with the problem of preparing to hold these gains after the war.

For example, venereal disease workers, with a look toward the future and to peacetime, and a backward glance to 1918 and what happened to a thriving venereal disease control program when peace came, know they must strengthen their lines in order that the gains which have been made against syphilis and gonorrhea will be maintained. However, it is a little different this time, for in most counties the venereal disease control program was already making rapid strides before war started. When military preparations got underway, health departments were able to make immediate response to new and increased demands. As the number of soldiers began to mount in the various training units, there was an influx of infected women into surrounding towns. These individuals had to be located, examined and rendered noninfectious in order to prevent disastrous results in our fighting men. The Selective Service examination of the first million registrants had rejected 60,000 men as showing evidence of venereal disease. These registrants had to be located, placed under treatment, and kept there until they became fit for induction.

These and many other problems resulted in a marked expansion of the clinic program over the state. In the carrying out of this extensive clinic program, private physicians have coöperated. With drugs supplied by the State Board of Health through county health departments, they have treated thousands of cases.

A new advance in the attack on syphilis and gonorrhea has been the establishment of treatment centers where women infected with venereal diseases can be isolated during the infectious period and treated by means of the newer rapid methods now available. With these and other methods we are holding the venereal disease line. But the fight must be a fight to the finish. When peace comes we must remember 1918 and not let these years of marked progress lessen our efforts in the postwar period. The conquest of syphilis and gonorrhea will take years. But science has revealed the causative organisms of these diseases, has developed improved diagnostic technics, and has given us drugs that will cure them in the early stages. With such promising possibilities for control, it would seem little short of criminal negligence not to banish these insidious diseases ultimately.

In tuberculosis control, progress has been made also. In fact, there has taken place the biggest case-finding project the tuberculosis program in this state has ever seen—chest x-ray of men recruited for the armed forces. In Mississippi close to 2000 men examined under the Selective Service Act were rejected because examining physicians discovered that they were suffering from tuberculosis. While there is little probability of any large scale compulsory system of examination for groups outside the service, we can reach many people with intensified case-finding programs in industry, in schools, and in examination of food handlers and domestic servants. The new portable x-ray machines, placed in many health departments through tuberculosis associations or other interested agencies, has shown us that we are just beginning to scratch the surface of finding tuberculosis among supposedly well Mississippians. We must work toward the goal of discovering tuberculosis when it can be cured and before it becomes a source of danger to others. If we can isolate and treat every person suffering from early tuberculosis this disease could soon be eliminated as a major cause of death.

Another important advance in public health arising out of wartime needs may be found in the field of sanitation. In certain sections of the state, food and milk shortages resulted in an expansion of facilities for the sanitary handling of these products. Plants for slaughtering and processing native-grown meats have been developed with the help of government agencies. Such facilities have and will continue to raise the sanitary and economic standards of a community if they are maintained after the war is over.

Other health activities showing comparable increase include achievements in the field of industrial health, laboratory service, sanitary engineering, housing, school health, vital statistics, and maternal and child health including the standards of maternity care of wives of men in certain pay grades of the armed forces. Time does not permit a detailed report of the upsurge of progress seen in all these services.

But time must be given all of us to the consideration of how we can hold the gains we have realized and which are of such benefit to the health status of the people. Whether we keep these gains depends on how we in public health utilize *now* the opportunity to understand and plan for future needs.

* * * * *

MISCELLANEOUS NEWS NOTES

New officers elected at the annual meeting of the Mississippi Public Health Association, December 9-10, were:

President—Mrs. John B. Grant, McComb.
President-elect—Dr. C. M. Shipp, Bay St. Louis.
Vice-President—Dr. R. N. Whitfield, Jackson.
Secretary-Treasurer—Dr. A. L. Gray, Jackson.
Representative of the State Board of Health—Dr. Felix J. Underwod, Jackson
SECTION CHAIRMEN:
Administrative—Dr. J. P. Ward, Greenville.
Public Health Nursing—Miss Elise Smith, R. N., Jackson.
Dental Hygiene—Miss Marie Rutledge, Greenwood.
Sanitation—Mr. Julian Watson, Vicksburg.
Clerical—Mrs. Johnnie Love Myers, Jackson.
Laboratory—Mrs. Maude Gober, Jackson.
Vital Statistics—Mr. Z. E. Oswalt, Jackson.

* * * * *

Mr. Russell H. Lyons has joined the staff of the School Health-Nutrition Service as Supervisor of Physical Education. This phase of school health has long been neglected in Mississippi although its importance to the development of physical fitness and well-being is recognized. For the first time there will be a full-time trained supervisor to direct the physical education activities of schools and colleges throughout the state. Mr. Lyons received training at the University of Chicago and has a master's degree in physical education from Louisiana State University. With his several years' experience in physical education work in elementary and secondary schools and colleges, it is believed that school officials of the state will find him able to give helpful assistance in the formulation of their programs. The School Health-Nutrition Service is a joint unit set by the State Department of Education and the State Board of Health.

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Kahn, Fritz, *Man in Structure and Function,* New York, Knopf, 1943.
Kraines, S. H., and Thetford, E. S., *Managing Your Mind,* New York, McMillan, 1943.
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Monographs of the Society for Research in Child Development, vols. 1-7, 1935-1943.
Mountin, J. W., *Distribution of Health Services in the Structure of State Government,* Washington, G.P.O., 1943.
National Foundation for Infantile Paralysis, *Collected Reprints of the Grantees,* New York, N.F.I.P., 1942.
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Papanicolaou, G. N., and Traut, H. F., *Diagnosis of Uterine Cancer by the Vaginal Smear,* New York, Commonwealth Fund, 1943.
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Schiff, Fritz, and Boyd, W. C., *Blood Grouping Technic,* New York, Interscience, 1942.
Seagrave, William, *Burma Surgeon,* New York, Norton, 1943.
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Soper, F. L., *Anopheles Gambiae in Brazil,* New York, Rockefeller Foundation, 1943.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

CENTRAL AUXILIARY OUTLINES PLANS FOR STATE MEETING

Mrs. Temple Ainsworth was named general chairman of arrangements for the state convention in Jackson, in the meeting of the Woman's Auxiliary to Central Medical society in the home of Mrs. H. R. Shands on North State Street.

With Mrs. A. L. Gray, president of the auxiliary, presiding, plans were made for the auxiliary's part in the convention.

A letter from the president of the American Medical Auxiliary explaining the training program for cadet nurses was read. It is hoped that this program will be begun in Mississippi in the near future. Mrs. Luther Crull was named chairman of the committee, with Mrs. P. R. Greaves, Mrs. J. O. Segura and Mrs. George Owen as members.

New members were introduced, and two guests, Mrs. Thomas L. Bailey and Miss Sara Kemmerer of Washington, D C., were welcomed.

Following the business session, the members and guests were invited into the attractive dining room for refreshments. Mrs. Noel Womack and Mrs. Robert Price presided at the tea table, and the following co-hostesses assisted Mrs. Shands in serving: Mrs. H. F. Garrison, Sr., Mrs. H. F. Magee, Mrs. C. F. McKenzie, Mrs. Hardy Hays, Mrs. T. W. Kemmerer and Mrs. W. R. Bethea.

In addition to these mentioned above the following members were present: Mrs. R. B. Austin 2nd, and Mrs. J. W. Austin, Forest; Mrs. L. C. Herrington, Terry; Mrs. Holleman, Florence; Mrs. E. A. Segrest, Mrs. H. L. Shannon, Flora; Mrs. J. Emerson Noll, Mrs. Sam F. Parker, Mrs. Edmund Horgan, Foster General Hospital; Mrs. C. H. Denser, Mrs. L. L. McDougal, Whitfield; Mrs. John B. Howell, Hazelhurst; and Mrs. Adna Wilde, Mrs. J. T. Weeks, Mrs. Felix J. Underwood, Mrs. T. M. Moore, Mrs. A. L. Gray, Mrs. N. C. House, Mrs. Temple Ainsworth, Mrs. T. H. Blake, Mrs. Lawrence Long, Mrs. J. E. McDill, Mrs. P. R. Greaves, Mrs. H. C. Ricks, Mrs. J. G. Thompson, Mrs. J. O. Segura, Mrs. Lauch Hughes, Mrs. Ewing Gordon, and Mrs. George Owen.

MRS. R. L. SIMMONS HEADS EAST MISSISSIPPI AUXILIARY

Mrs. R. L. Simmons was elected president of the Woman's Auxiliary to the East Mississippi Medical Society at its annual session early in the month.

Other officers and the chairmen elected are Mrs. A. C. Bryan, vice-president; Mrs. M. L. Flynt, Jr., secretary; Mrs. Lamar Arrington, treasurer; Mrs. C. T. Burt, historian; Mrs. R. L. Fowler, parliamentarian; Mrs. H. L. Arnold, Research and Romance of Medicine; Mrs. E. B. Key, publications; Mrs. T. G. Cleveland, Legislation; Mrs. Lowry Rush, Public Health and Preventorium; Mrs. May Flynt, reports; Mrs. Karl Stingily, *Hygeia*, and Mrs. E. E. Robinson, Doctors' Day. All are from Meridian.

Vice-presidents were re-elected from the following counties: Mrs. E. E. Robinson, Lauderdale County; Mrs. H. C. Watkins, Jr., Clarke County; Mrs. W. B. Hickman, Winston County; Mrs. W. H. Banks, Neshoba County; Mrs. C. F. Hester, Newton County; Mrs. V. M. Creekmore, Kemper County.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES AUXILIARY

At the annual meeting in Tupelo, the members of the Northeast Mississippi Thirteen Counties Auxiliary were delightfully entertained at the Tupelo Hotel for the December meeting, Mrs. H. J. Kellum, Tupelo, presiding. Drs. J. L. McGehee of Memphis, G. S. Bryan of Amory, and W. C. Walker of Houlka were presented, and Dr. McGehee brought the guest message.

Mrs. Stanley Hill of Corinth responded to the welcome given the group by the Tupelo members.

At the business session the following new officers were elected: Mrs. J. Rice Williams, Houston, president; Mrs. R. R. Wyatt, Columbus, president-elect; Mrs. E. K. Guinn, Okolona, Mrs. I. P. Burdine, Amory, Mrs. L. L. McDougal, Booneville, and Mrs. W. H. Cleveland, Tupelo, the four vice-presidents; Mrs. W. L. Orr, Fulton, secretary-treasurer; Mrs. T. M. Gore, Houston, corresponding secretary; Mrs. V. B. Philpot, Tupelo, parliamentarian; and Mrs. W. N. Reed, Amory, Research and Romance of Medicine chairman.

ANNOUNCING
THE EIGHTH ANNUAL MEETING
OF
THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY
MARCH 6-9, 1944
Guest Speakers

CARDIOLOGY
Dr. Robert L. Levy, New York
DERMATOLOGY
Dr. Carroll S. Wright, Philadelphia
GASTRO-ENTEROLOGY
Dr. Walter L. Palmer, Chicago
GYNECOLOGY
Commander Robert A. Ross, Durham
MEDICINE
Dr. Ralph H. Major, Kansas City
MEDICINE
To be announced
NEUROPSYCHIATRY
Dr. Abraham Myerson, Boston
OBSTETRICS
Dr. John W. Harris, Madison
ORTHOPEDIC SURGERY
Dr. H. Winnett Orr, Lincoln
OTOLARYNGOLOGY
Dr. Chevalier L. Jackson, Philadelphia
PATHOLOGY
Dr. Paul R. Cannon, Chicago
PEDIATRICS
Dr. Henry G. Poncher, Chicago
PROCTOLOGY
Dr. Louis A. Buie, Rochester
SURGERY
Commander L. Kraeer Ferguson, Philadelphia
SURGERY
Dr. George T. Pack, New York
UROLOGY
Dr. Frank Hinman, San Francisco

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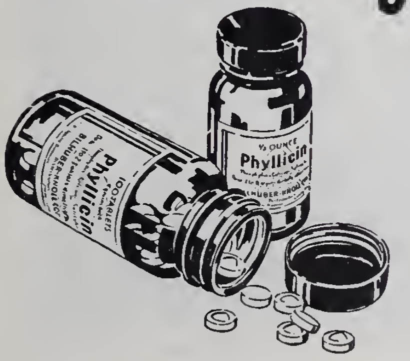

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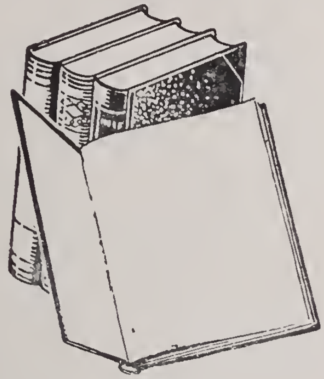

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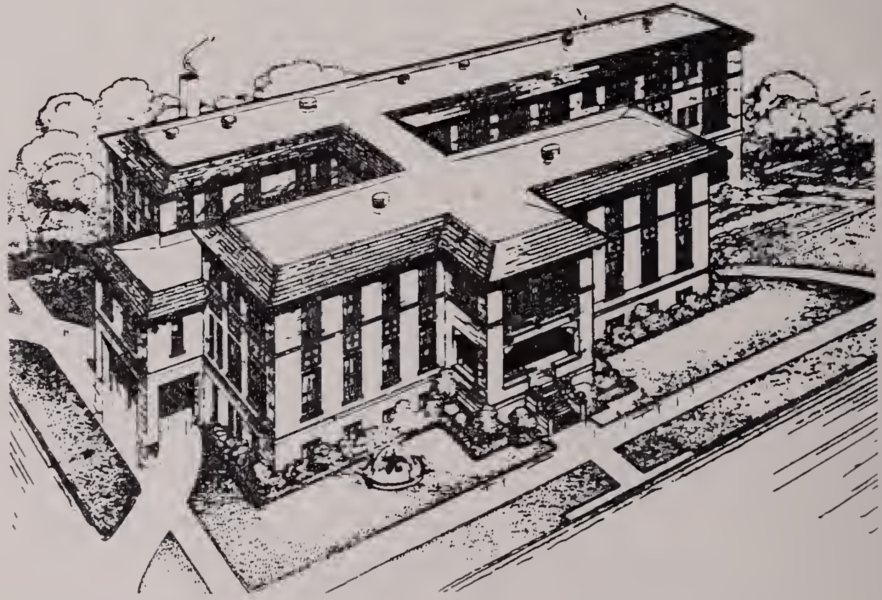

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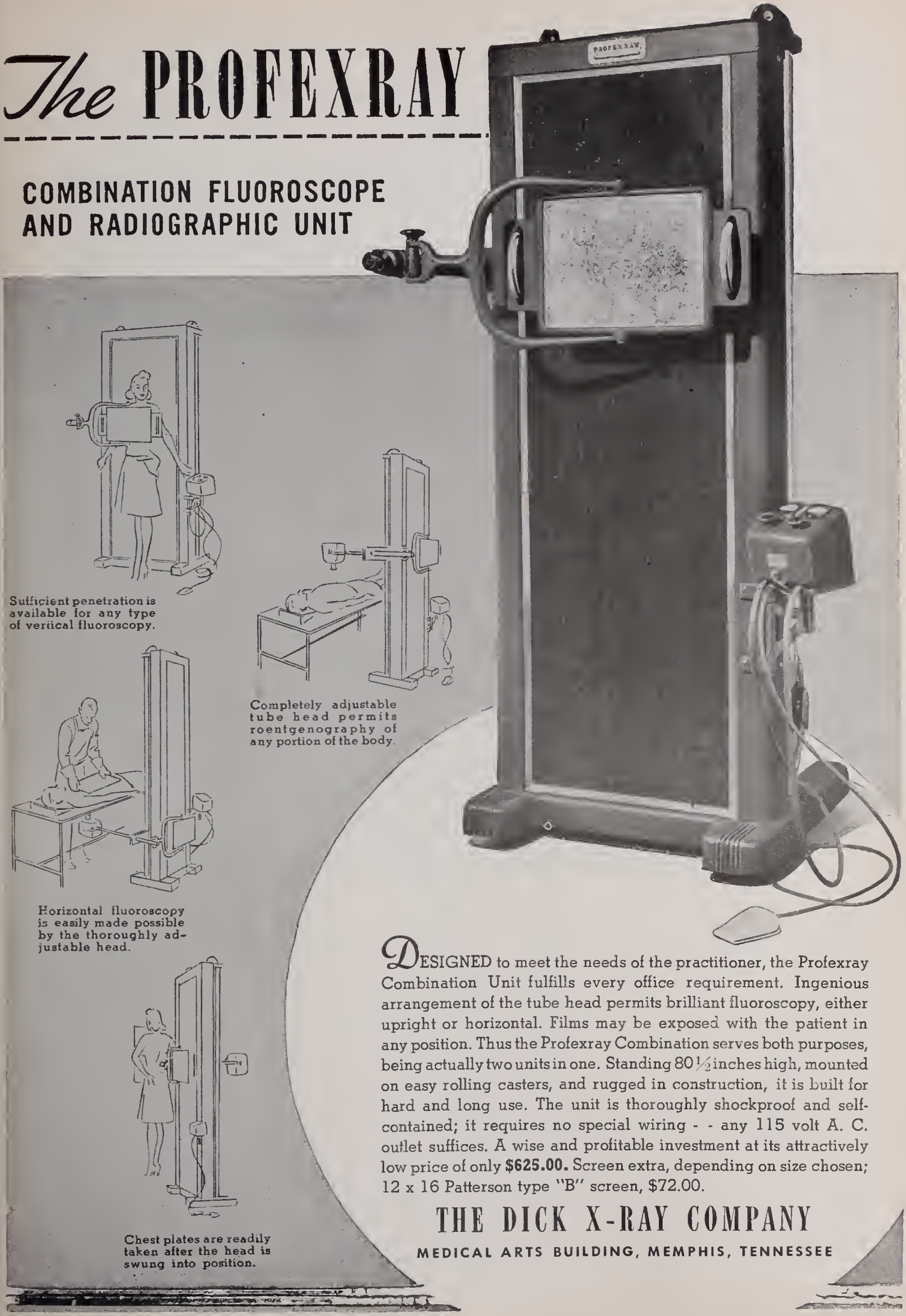

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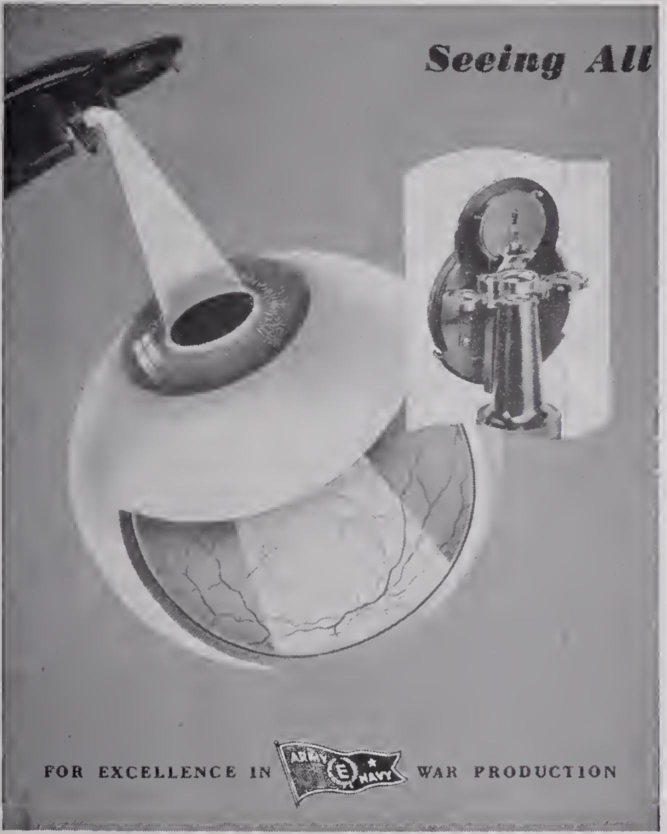

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*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

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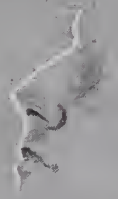
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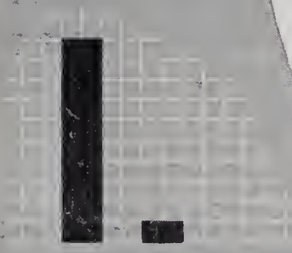
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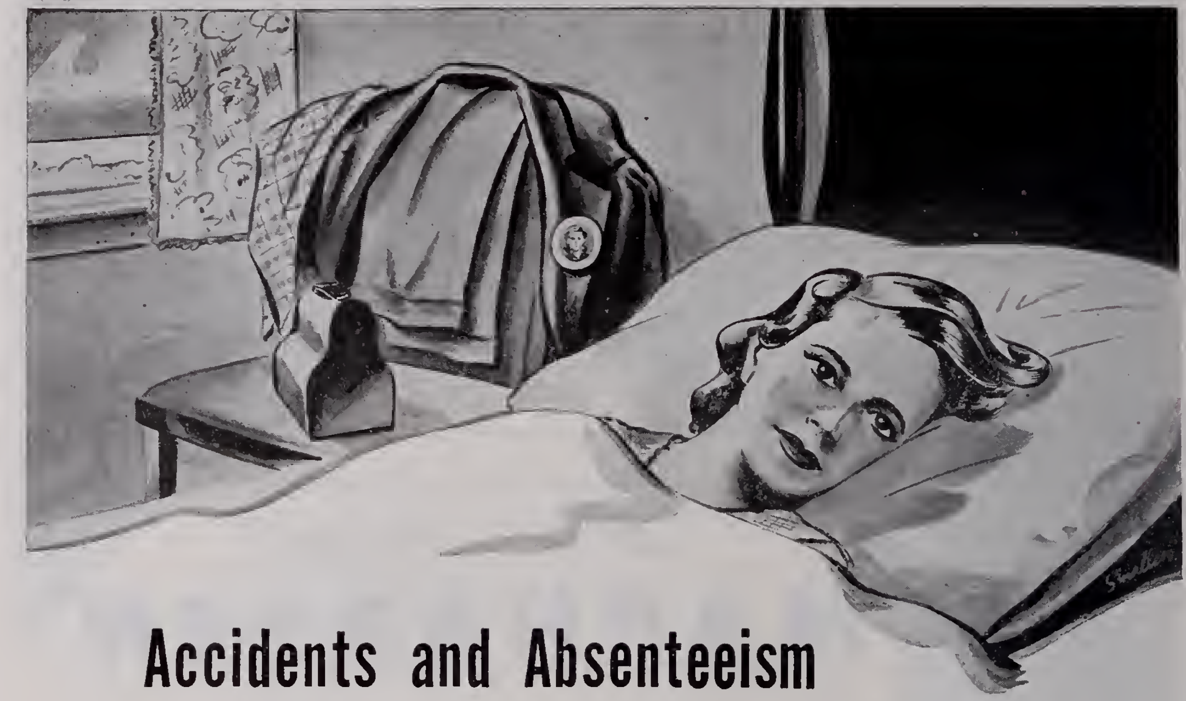

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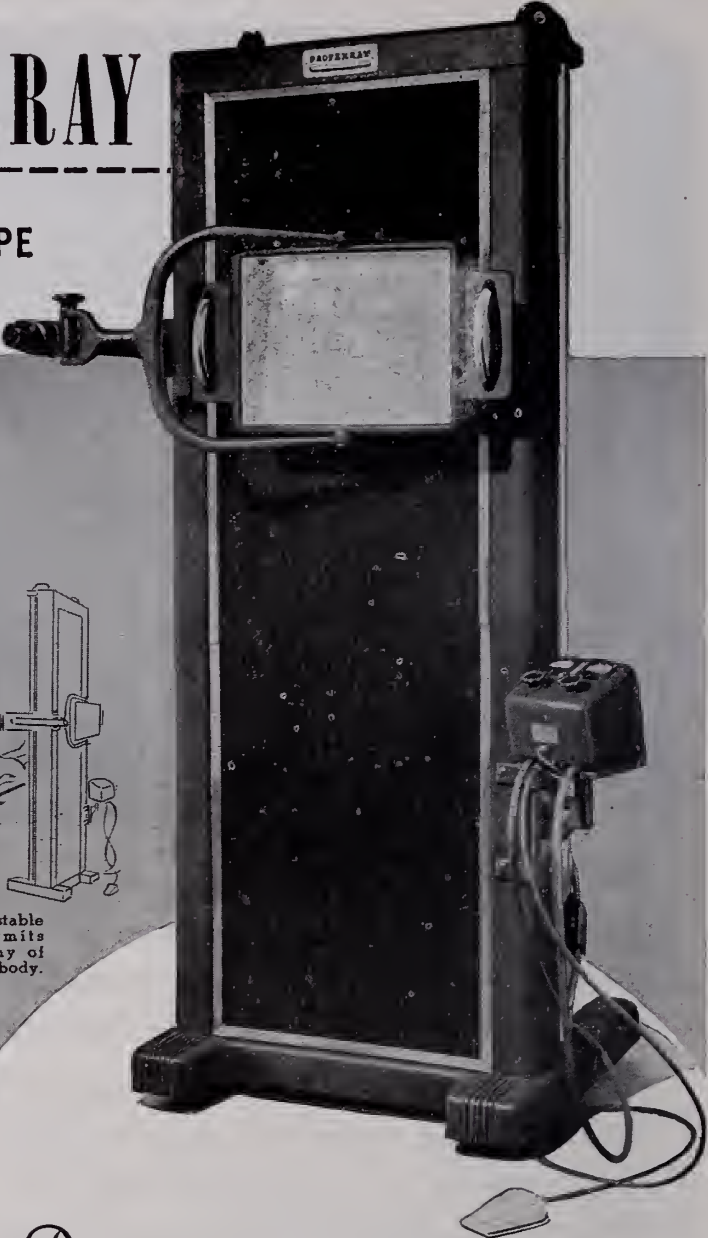

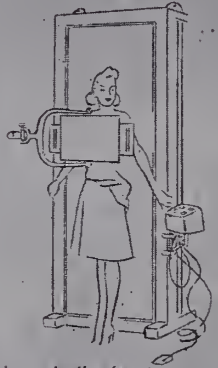

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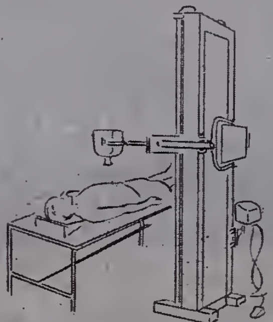

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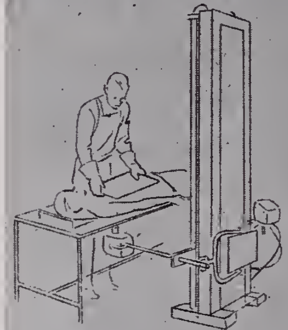

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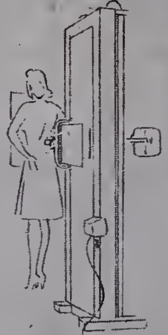

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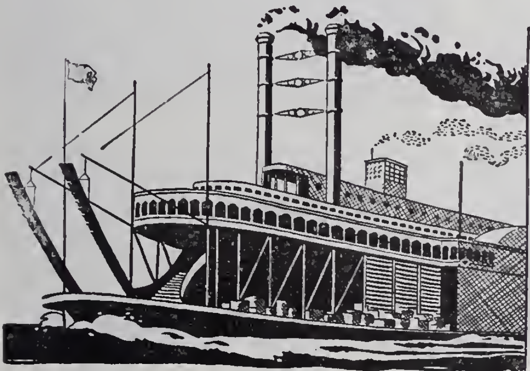

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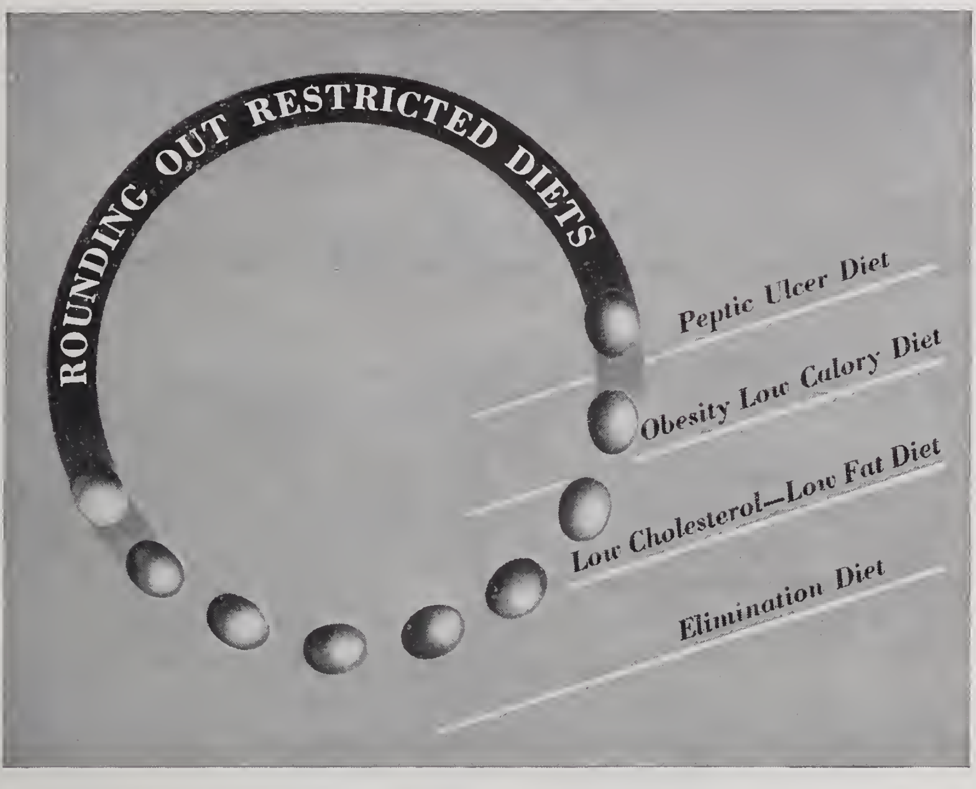
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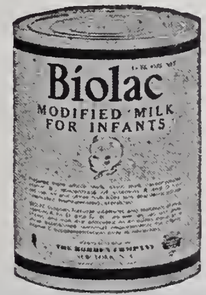

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Renal Complications Following Sulfonamide Therapy

TEMPLE AINSWORTH, M.D.
JACKSON, MISS.

THE sulfonamides are frequently almost miraculous in their action against certain infections, but they are very dangerous drugs. Minor toxic effects are episcleritis, conjunctivitis, dermatitis, nausea, vomiting and fever. Major toxic effects, which may endanger life, are acute hemolytic anemia, agranulocytosis, toxic hepatitis, exfoliative dermatitis, thrombopenia, purpura hemorrhagica, acidosis and renal complications. I will limit my discussion to the renal complications.

I have seen renal complications occur following the taking of sulfathiazol, sulfadiazine and sulfapyridine but not following sulfanilamide. Sulfathiazol has been the chief offender but I believe this is because it is more frequently used. The sulfonamides are conjugated in the body with acetic acid to form an acetyl derivative. The percentage of the drug that forms the relatively inert acetyl derivative varies with the drug given and with the individual from 30% to 70%. The acetyl form of sulfadiazine is more soluble than free sulfadiazine, but with the other sulfonamides the acetyl form is less soluble. Both the free and acetyl forms are excreted from the body almost entirely in the urine and are much more soluble in alkali than in acid urine. According to Sunderman and Pepper[1] about 25 mgs. of acetylsulfathiazol are soluble in 100 cc. of urine with a pH of 5.5 (acid urine) but with a pH of 8 (alkaline urine), 75 mgs. are soluble. With free sulfathiazol, 115 mgs. are soluble in 100 cc. of urine with a pH of 5.5 (acid urine) but with a pH of 8 (alkaline urine), 260 mgs. are soluble.

There seem to be at least three types of injury to the urinary tract:

1. The sulfonamide may act upon the kidneys in a manner similar to other renal irritants to produce a toxic nephrosis. In this instance, there is extensive damage in all parts of the nephron but particularly in the tubules[2].

2. Deposition of the drug crystals in tubules of the kidney causing tubular obstruction.

3. Deposition of the drug crystals in ureter causing ureteral obstruction.

Renal complications are characterized by microscopic or gross hematuria with variable amounts of pus, edema, oliguria or anuria and nitrogen retention in the blood. Backache and renal colic may occur but are not constant. I have seen six persons whose deaths I believe were due to renal injury from sulfonamide. Three of these patients had other complications and I am reporting only three deaths. I have treated fifteen other persons with severe renal damage and I am reporting three of these cases. Why the drug had a bad effect in certain individuals is not definitely known. It is not necessarily the large doses which give trouble as several patients I have seen had only small amounts of the drug.

CASE REPORTS

CASE I. — R. C. E., white, male physician, age 65, started taking sulfathiazol, one 7.7 grain tablet three times a day because of chronic prostatitis and fibrostitis. After he had been taking the drug for about one week, he developed fever which I believe was drug fever. However, the physician who saw him thought he had influenza and advised him to increase sulfathiazol to two tablets every four hours. His condition did not improve and three days after onset of fever, on 7/17/42, he was brought to hospital for treatment.

At the time of admission to hospital, he was acutely ill. His temperature was 103$\frac{4}{5}$; there was swelling of face and hands, conjunctivitis, episcleritis and generalized dermatitis. Urine was acid in reaction and showed albumin, pus, blood and granular casts. Free blood sulfathiazol concentration was 1.8 mgs. per cent, blood urea nitrogen was 60 mgs. per 100 cc. of blood, creatinine 1.9 mgs. per 100 cc. of blood. For first 24 hours after admission, his urinary output was 60 cc. Treatment was instituted for sulfathiazol toxicity which consisted of fluids intravenously, sodium bicar-

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*Read before the Section on Medicine at the Mississippi Medical Association, May 1943, Jackson, Miss.

bonate intravenously, blood transfusions, diathermy over region of kidneys, cystoscopy and ureteral catheterization. At the time of cystoscopy, no crystals were seen in bladder and there was no obstruction to passage of catheters in either ureter. Catheters were left in place and kidney pelves irrigated with 2½% sodium bicarbonate solution. His condition became more critical; temperature varied from 101 to 104 daily, and his blood urea nitrogen gradually increased to 165 mgs. per 100 cc. of blood, creatinine to 9.3 mgs. per 100 cc. of blood. Average urinary output was 136 cc. daily and he died of uremia on the eighth day after admission to hospital.

Case II. — Patient, J. H. O., white male, age 65, had transurethral prostatectomy on 1/7/43. He had an uneventful convalescence and about six weeks later he was seen in office for routine examination. Urine showed a few pus cells and he was advised to take sulfathiazol, one 7.7 grain tablet three times a day. Four days later, he developed fever, nausea and vomiting, and pain in right lower quadrant of abdomen. I believe this was drug fever and pain was due to ureteral obstruction by drug crystals. Family physician treated him at this time but on the morning of 3/6/43, three days after onset of fever, he was brought to hospital because he had not passed any urine in past 24 hours.

On examination, there was considerable tenderness over region of both kidneys, slight rigidity of right side of abdomen. On catheterization, only 10 cc. of urine was obtained from bladder. Urine was acid and showed 2 plus albumin, few granular casts, many pus and red blood cells. Treatment was started as in Case I, but in this patient, on cystoscopic examination, many crystals were seen in bladder and both ureters were obstructed by drug crystals. After considerable difficulty, I was able to pass catheter to right kidney pelvis but was unable to get catheter by obstruction in lower portion of left ureter. Catheter in right kidney pelvis drained 240 cc. of urine during the first 24 hours and 105 cc. the next 24 hours; however, patient's condition became more critical. His blood urea increased to 130 mgs. per 100 cc. of blood, creatinine to 5.2 mgs. per 100 cc. of blood and patient died from uremia about 48 hours after admission. Possibly bilateral pyelotomy, decapsulation and retrograde dilation of ureters would have been helpful.

Case III. — Patient, Mrs. P. P., white female, age 28. Four weeks before admission, family physician advised her to take sulfathiazol, 15 grains four times a day on account of sore throat. She stated the tablets caused considerable nausea and vomiting but she continued to try to take them. About two weeks later, she had a chill and signs and symptoms of left lobar pneumonia. At this time the drug was changed to sulfadiazine, grains 15, four times a day. Nausea and vomiting continued. She stated she had taken about 70 tablets of sulfonamides, the last one taken on 2/8/43, or day before admission, at which time she vomited undigested tablets.

On admission, patient's temperature was 100, pulse 100, respiration 34. There was a complete absence of breath sounds on left side of chest. Blood pressure 140/110. Urine was acid in reaction, showed 4 plus albumin, innumerable pus and blood cells. Free sulfathiazol concentration of blood 5 mgs. per cent. Blood urea 263 mgs. 100 cc. of blood, creatinine 16 mgs. per 100 cc. of blood. 32 ounces of straw colored fluid withdrawn from left pleural cavity and treatment for sulfathiazol toxicity carried out as in Case I except cystoscopy was not done due to the fact that she had no pain suggesting any ureteral obstruction. I feel now that this was a mistake and that cystoscopy should be done on every case. Her average urinary output was about 300 cc. daily and she expired on the fourth day after admission to hospital from pulmonary edema and uremia.

Case IV. — Patient, Mrs. O. S. M., white female, age 25, admitted to Mississippi Baptist Hospital 10/10/42 with a history of having passed no urine for the past 48 hours. The family stated that three weeks ago she developed a sore throat and consulted local physician who gave her sulfathiazol tablets. She took seven tablets, her throat was better and she returned to work. Ten days ago, her throat again became sore and she had fever of 106. She took three more tablets and a skin rash developed. She had taken a total of ten sulfathiazol tablets. She remained in bed with nausea, vomiting and fever as high as 103. One week later later, or two days ago, she developed suppression of urine. At the time of admission to hospital, she had generalized dermatitis, abdomen was distended and seemed to be tender. On catheterization, 2 cc. of urine was obtained which was acid in reaction and showed 4 plus albumin, 4 plus pus and blood. Blood urea was 340 per 100 cc. of blood and creatinine was 15 mgs. per 100 cc. of blood.

Treatment as outlined in Case I. At time of cystoscopy, no crystals found in bladder, no definite obstruction in either ureter, but after introduction of catheters, urine began to drip from left catheter. Catheters left in place and lavaged with 2½% sodium bicarbonate solution. For the first 24 hours after admission to hospital, total urinary output was 10 cc., for next 12 hours 45 cc., and for the next 12 hours 450 cc. After this, there was a gradual increase in urinary output and decrease in nitrogen retention in blood. Patient was discharged from hospital eleven days after admission with kidneys functioning normally.

CASE V. — Patient, Mrs. G. J., white female, age 55, admitted to hospital 2/21/43. She had been taking sulfadiazine, 7.7 grains every four hours for past days on account of cellulitis of right leg. Twenty-four hours before admission, she noticed she was passing only small amount of urine and had rather severe pain over region of right kidney, some nausea and vomiting but no fever.

On admission, patient was catheterized and no urine was obtained from bladder. On cystoscopic examination, there were numerous small crystals lying in bladder. Both ureteral orifices looked swollen and inflamed as if stones had recently passed down ureter. Lower portion of both ureters was obstructed but catheters were passed after some difficulty. Urine began to flow immediately from either catheter. During the next 12 hours, catheters drained 1380 cc. of urine. Catheters withdrawn after 24 hours and patient made an uneventful recovery.

CASE VI. — Patient, J. B. H., white male, age 40, had right nephrectomy 3/22/43 for calculus pyonephrosis. On second postoperative day, he began having elevation of temperature to about 103 degrees daily. On third and fourth postoperative day, he was given five grams of sodium sulfathiazol intravenously. Up until this time his urinary output had been at least 2000 cc. daily. The second injection of drug was given about 4 P.M. and and about 7 P.M. he voided six ounces. During the next 24 hours he excreted only 22 cc. of urine. At time of cystoscopy the following day, numerous crystals were found in bladder. Lower third of left ureter was found to be obstructed by crystals but catheter was passed by kidney pelvis after some difficulty. Urine began to flow freely from catheter and during the next 12 hours catheter drained 1980 cc. Catheter removed after 48 hours and patient made an uneventful recovery.

THESE PROCEDURES ARE CONSIDERED HELPFUL IN PREVENTING RENAL COMPLICATIONS:

1. The dosage of the drug should be the smallest amount that will accomplish the desired result. Ordinarily the dose should not exceed 4 grams a day in adults.

2 The urinary output should be at least 2000 cc. daily.

3. Give sufficient alkali to keep pH of urine above 7.2 or strongly alkaline to litmus paper. In a series of ten cases reported by Barnes and Kamaichi[3] the urine was acid in every case.

4. Examine urine at frequent intervals for microscopic blood or drug crystals. Although characteristic crystalline forms of these drugs have been described, it is easy to mistake them with other sediment in urine and for this reason, we have used method reported by Jenson and Fox[4] of centrifuging specimen of urine and determining concentration of drug in 1 cc. of supernatant and 1 cc. of sediment. If sediment reading is higher, this indicates solid drug in urine.

5. Give drug cautiously if any of the minor toxic effects occur or in the presence of urinary stasis as this condition favors the formation of sulfonamide crystals.

6. Discontinue drug on appearance of blood in urine, decrease in urinary output or drug fever. Fever occurring during the course of therapy is frequently a warning signal that a major toxic effect may occur.

7. Precipitation of the drug in the urine is especially apt to occur following a sudden drop in patient's temperature, as in Case VI, because the drugs are more soluble at a higher temperature[3]. With pH of urine at 6.5 (acid urine) and temperature 98 degrees F., 98.6 mgs. of sulfathiazol are soluble in 100 cc. of urine. Determination of blood concentration is not particularly helpful but if you determine total sulfonamide concentration of urine and take pH of urine and patient's temperature into consideration, you can, by consulting solubility tables, determine if you are near the danger zone.

TREATMENT

1. With the appearance of oliguria, pus, blood or casts in urine, the drug should be discontinued.

2. Force fluids by mouth and give fluids intravenously if necessary. Give sodium bicarbonate by mouth and intravenously if necessary unless patient already has alkalosis.

3. If condition does not improve, cystoscopy and ureteral catheterization should be done to determine if ureteral obstruction exists. Leave catheters in kidney pelves and irrigate with warm 2.5 per cent sodium bicarbonate solution.

4. Give short wave diathermy over region of kidneys, or, if necessary, patient's body temperature may be elevated by means of a hyperpyrexia cabinet.

5. Determine blood urea, blood creatinine and CO_2 combining power of blood.

6. If ureters are obstructed and you are unable to pass ureteral catheters, bilateral pyelotomy and retrograde ureteral catheterization may be done[5].

7. Decapsulation of kidney may be beneficial.

8. Last, but not least, *pray.*

SUMMARY

The mechanism of renal complications from sulfonamide therapy is discussed and six cases are reported, three deaths and three patients with severe renal damage. In each of these patients, with possible exception of one, the drug was given because of a minor ailment which would probably have gotten well without any special treatment.

A plea is made now—*"Do not give these drugs for minor illnesses."*

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DISCUSSION

DR. H. R. SHANDS (Jackson)—I have no doubt that many of you have been giving the various preparations of sulfa drugs without any mishaps, still the danger of very serious complications from the sulfa drugs is a real menace. Working as I do in the same hospital with Dr. Ainsworth, it has been my privilege to know of at least 20 cases of this kind that have been referred to him. Being the best known urologist in Mississippi he naturally attracts cases from a large area. I am informed the complications which he describes and which can be very grave, do not occur in but about 2% of the cases, but still that is well worth recognizing. He has in the hospital a patient I am interested in, in a critical condition. He came in with both ureters blocked, and in my opinion, the man is going to die. I have seen several such cases. I have had several referred to me. One lady from Monticello had only taken eight tablets and she came in with suppression of urine. The conclusion I have arrived at after my long experience is that in the future I will reserve the use of sulfa drugs for certain cases—gonorrhea, blood poisoning, pneumonia, and especially peritonitis. Most of these, except gonorrhea, are conditions that carry a high fever. The solubility of the drug is much greater in high temperature. I do not believe it is much good for colds. Most of the cases of severe colds have sore throats. Of course we try to give the sulfa drugs in sore throat, but I have never seen anybody die with sore throat and I have seen them die with sulfa drugs.

DR. J. A. K. BIRCHETT (Vicksburg) — I would like to know if Dr. Ainsworth was able to get autopsies.

DR. W. L. LITTLE (Wesson) — This is a most interesting paper to all of us. I want to ask if his cases 1, 2 and 3 had been given an adequate amount of fluid.

DR. W. H. FRIZELL (Brookhaven)—I want to sound one warning. One surgical paper was discussed here this morning in which there was no urinalysis made and the patient was given as high as 5 grams intravenously of this drug. I want to sound this warning: Don't give sulfanilamide with any hepatic complication, or any nephritic complication, no matter what you have. Then the blood level of the sulfa drugs should be taken, but few of us can do that. It is a syllogism that any drug which has potentiality for good has corresponding potentiality for evil.

Then another thing, whether or not we we know the infection, we know that the sulfa drugs do not counteract certain infections and indiscriminate giving of them is dangerous. People are demanding that the doctors give them, and now the laity is going to the drug store and getting them, taking them for all manner of illnesses, and even giving them to children. If such indiscretion goes much further restaint by legislative action will have to prevent sulfonamide drugs being sold over the counter of drug stores.

DR. AINSWORTH (closing discussion) — Answering Dr. Birchett's question about the autopsies: In the first case I reported we did have an autopsy; however, at that time—it is a little over a year ago—the method of preparing the autopsy specimen was such that if any crystals were present they would wash out during the preparation; but there was some swelling and injury to the tubule of the kidney.

In regard to the question Dr. Little asked as to whether these patients had an adequate fluid intake and sufficient outlet, in most instances I do not know, because I saw the patients only after the anemia developed and I did not treat them before that time.

I have two patients now—Dr. Shands mentioned one—that are dying as a result of taking this drug. One is the case of a young boy. The drug was started on last Saturday night, he was given 15 grains 4 times a day and on Sunday night or Monday morning stopped urinating—passed nothing all day and I have been working with him ever since. He is a boy 18 years old and is going to die.

I thank the gentlemen for their kindness in discussing this paper.

The Medical and Surgical Management of Goiter*

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GOITER is a disease which is treated, or managed, both medically and surgically. It has an equally prominent place in both surgical and medical books. It is, therefore, fitting that a surgeon read a paper on this subject before the medical section.

It is certain, in the writer's opinion, that there is yet much to be learned about this peculiar disease. The object of this paper is to bring to you a review of the subject in the light of experience with about two hundred operative cases and many more cases treated medically.

There have been many and confusing classifications of goiter in the past but of late years most authorities limit the classifications to three major types, and consider other types only mixtures or complications.

The major types are:

1. Colloidal goiter.
2. Adenomatous goiter.
3. Exophthalmic goiter.

Since each type of goiter is treated differently and the treatment varies with age, symptoms, and course of the disease, it is very important that a correct diagnosis of the type be made.

COLLOIDAL GOITER—This type of goiter, also known as simple goiter or endemic goiter, is the goiter of adolescence, seen more often in girls fifteen to twenty-five years of age. It is prevalent in all parts of the country but is more common in goiterous regions where there is a deficiency of iodine in the water and food. The thyroid gland is uniformly enlarged and is soft to touch. This type of goiter is not toxic and there are no symptoms, except those which may be due to pressure, or nervousness due to anxiety. Colloidal goiter usually disappears about the age of twenty-five or thirty, but if complicated by the pressure of adenomata, the adenomata may be noticed for the first time as the balance of the gland is reduced in size. This is the only type of goiter which is treated through its course with iodine. It may be prevented almost entirely by the general use of iodized salt. Surgery is not indicated unless for cosmetic reasons or to relieve pressure symptoms. If surgery is done iodine should be continued to prevent a return of the goiter. Thyroid extract may be indicated in certain cases with low metabolic rate.

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ADENOMATOUS GOITER. This type of goiter appears at any age but more commonly in early adult life. The thyroid gland is nodular and is not symmetrically involved. The nodules are usually firm but may be cyst-like to touch. The nodules may grow rapidly or slowly or may remain almost the same throughout life. This type of goiter in its earlier stages may cause pressure symptoms or cosmetic defects. Toxic symptoms may not develop in the early stages or throughout life but are prone to develop about the age of thirty, regardless of the size of the adenomata. Toxic symptoms usually appear insidiously and are not as well defined or as typical as in exophthalmic goiter. Herein lies the great danger of not managing adenomatous goiter correctly, for it is recognized that the heart muscle bears the brunt of the thyrotoxicosis of adenomatous goiter. In time the patient becomes a cardiac case and the adenomatous goiter, the source of the trouble, is completely overlooked. Iodine is not indicated in the treatment of adenomatous goiter, as it will not cure the disease but will aggravate it in a large percentage of cases. Surgery is indicated when there are pressure symptoms, for cosmetic reasons, and when there are toxic symptoms. Surgery should not be practiced, unless distinctly indicated, before the age of twenty-five or thirty, because young patients need the thyroid gland. All adenomata after the age of thirty should be removed because of the almost certain development of toxemia sooner or later, and because cancer develops in ten per cent of cases not removed. The only place iodine has in the management of adenomatous goiter is in the preparation of toxic adenomata for operation.

EXOPHTHALMIC GOITER—Synonyms of this type of goiter are: Grave's disease, Basedow's disease, and thyrotoxicosis or toxic goiter.

This type of goiter may appear at any age but is more common between the ages of fifteen and fifty. The thyroid gland is uniformly enlarged, and usually only moderately so, and is firm to touch. Severe toxemia may exist when the gland is not noticeably enlarged. Exophthalmic goiter may begin suddenly or very gradually. The real cause of the disease remains a mystery. An overwrought nervous system seems to be a predisposing cause. The symptoms and signs of a typical case are classical, and should not be overlooked by any physician, but for some reason this mistake is occasionally made. The chief symptoms are: Loss of weight in spite of a good appetite, fast pulse of 120° or more, nervousness as shown by tremor, purposeful movement, and an irritable disposition on, a moderately elevated systolic blood pressure with low diastolic pressure, weakness, a sweaty skin, high basal metabolic rate, and occasionally exophthalmos. At times there occurs in cases not treated or improperly treated the so-called crisis which causes an exaggeration of all symptoms, nauseas, vomiting, prostration, and shock. The treatment of a typical case of toxic goiter is clear and distinct. It is the operation of subtotal thyroidectomy as soon as the toxic symptoms can be controlled sufficiently for safety. Ten to twenty drops of Lugol's solution are given after each meal, the patient is put to bed, a full diet is given, and sedatives administered as indicated. The time required for control of the disease varies from ten days to several weeks. The operation is best done under local anaesthesia with sufficient sedatives to eliminate all nervousness. The results of such an operation on a severely toxic case are as dramatic as the calm which follows a raging storm. The patient requires careful postoperative treatment. Large amounts of intravenous glucose solution should be given, also sedatives and stimulants as indicated, and Lugol's solution should be given post-operatively as soon as the patient can retain it, and it should be continued for several weeks. Later on hypothyroidism, should it occur, is treated with thyroid extract, and the surgeon should not be condemned, for it is far better to remove too much of a toxic gland than too little.

Typical cases of the three types of goiter and their recognized treatment have been described. The real trouble begins with the typical cases and the borderline cases. Occasionally an enlarged firm thyroid gland is observed without any symptoms or signs of disease. At times goiter is intra-thoracic and may be demonstrated only by the x-ray. Lahey describes the apathetic goiter, which is very toxic, but with many of the symptoms just opposite those of toxic goiter. Toxic goiter treated for a long time with iodine may assume a "burned-out" condition in which the symptoms are so typical it may be impossible to determine the proper course of procedure. Cancer of the thyroid in its early stages may be mistaken for adenomatous goiter. Fat pads over the thyroid gland are often mistaken by the laity for goiter. Toxic goiter seen for the first time in a crisis may be difficult to diagnose. Toxic goiter in small children may be overlooked. A case of hypertension with a fast pulse and an enlarged thyroid gland is very difficult to evaluate properly.

To summarize, a definite course of procedure for the medical and surgical management of goiters is outlined.

MEDICAL TREATMENT—1. Treat colloidal with iodine indefinitely, or up to thirty years of age. These patients should be reassured as to the simplicity of their complaint to prevent undue nervousness. Surgery is indicated only when there are pressure symptoms or cosmetic defects. After operation iodine should be continued.

2. Adenomatous goiter should not be treated medically. It should be managed by having the patient report at intervals for observation. Call in the surgeon if the goiter becomes toxic, too unsightly, or the patient is past thirty years of age, and especially if there is only a single nodule.

3. Exophthalmic goiters which are profoundly toxic should be referred to the surgeon at once. Mildly toxic goiters may be treated with iodine, sedatives and rest for not more than two weeks at a time. If this course of treatment has to be repeated two or three times, surgery is definitely indicated. It is the duty of the physician, once he assumes the responsibility of treatment, to follow through to a successful conclusion, and not to turn the patient loose on iodine for an indefinite time to make of himself a hopeless wreck.

SURGICAL TREATMENT—1. Colloidal goiter should not be treated surgically unless to relieve pressure symptoms or cosmetic defects.

2. Adenomatous goiters in patients below thirty years of age should not be rushed into surgery except to relieve pressure symptoms, cosmetic defects, or a single-nodule goiter if suspected of being malignant. All nodular goiters in patients beyond thirty years of age should be removed because of the almost certain development of toxicity sooner or later and because ten per cent of them become malignant.

3. Exophthalmic goiters of a very toxic nature should be operated as soon as the patient can be prepared for a safe operation, the time being from ten days to several weeks. Goiter operation is a safe procedure when the patient is properly prepared, and it is best done under local anesthesia. The hospital stay is only four or five days, and the mortality rate is one-half to one per cent. The writer has had only one death and that occurred suddenly five days after an apparently successful operation on an enormous goiter of long duration in an old patient.

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DISCUSSION

DR. G. W. F. REMBERT (Jackson)—We want to congratulate Dr. Hightower on saying so much on this subject and saying it so well in the time allotted. Evidently, he has spoken out of an experience of conscientious effort, crowned with more than average success. His classification helps to simplify the subject for the average man. We have very few cases of colloidal goiter in our section of the state. We have iodine in the soil, it seems, and we drink milk. In some sections the soil may have to be fed or the patient given iodine directly. Much may be done in the future in preventive medicine and in building health assets by way of the soil, no doubt.

The cause and prevention of adenomatous and exophthalmic goiter is still a great challenge to the profession.

Since we have the sulfa drugs to combat pneumonia and other complications caused from operation, the age limit for toxic goiter seems to have been extended several years.

Glucose is a great aid in pre- and postoperative toxic goiter and in an emergency iodine may be given in it by vein.

The one-stage operation seems to be gaining ground now, and total removal of the gland in the very toxic goiter seems to be the tendency.

Radiation has some place, we believe, in the treatment of exophthalmic goiter. It seems to improve the patient for a period of time. Hormone therapy has its place also in some goiter cases, especially the toxic type. It is well to keep in mind the patient as well as disease to individualize, as I know the essayist has done in his cases. In one case who underwent a second and total thyroidectomy, and was generally under par and anemic sometime after the operation, we got marked results by adding liver and iron and other tonics and proper diet to her thyroid therapy.

We thank Dr. Hightower for this fine, practical, and well-balanced paper.

Caudal Anesthesia in Obstetrics*

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THE QUESTION of safe obstetrical anesthesia has been discussed from many angles. Since Sir James Y. Simpson introduced chloroform in 1840 to relieve the pains of labor, there has been a continuous search for perfection for this purpose. Of the many excellent procedures employed, none has been acclaimed universally as both entirely safe and completely efficient.

In considering the value of any method of alleviation of the pain of childbirth, there are four cardinal points or postulates to be applied: (1) safety to mother and child, including remote sequelae, (2) efficiency and uniformity of the anesthesia, (3) the simplicity and availability of the method employed, and (4) its effect on the mechanism of labor.

There is a method available which has been used successfully in genito-urinary and proctological surgery for over thirty years and which is just beginning to be more widely employed in obstetrical anesthesia. This method, with the improvements in technic, in my opinion satisfies the four cardinal postulates required better than any other method now available. This method which I wish to discuss is that of a true caudal block which consists of merely inserting a needle through the sacral hiatus into the sacral canal and depositing there a local anesthetic solution. This has been referred to also as extradural or epidural block. The solution is distributed outside of the dura mater and the process is thus differentiated from spinal anesthesia, in which the anesthetic solution is introduced into the subarachnoid space.

In 1895, Corning[1] suggested the possibility of introducing an anesthetic solution into the epidural space and Cathelin[2], a French urologist, blocked the sacral and coccygeal nerves through the sacral hiatus in 1901, but was not employed in labor until 1909 by Stoeckel[3]. Urologists and proctologists adopted the method with great success. Lundy[4], at the Mayo Clinic in reporting its use in over 15,000 cases, termed it one of the most satisfactory technics available in the whole field of anesthesia. Meeker[5] and Bonar[6] in 1923 and Sims[7] in 1935 reported their successful use of caudal anesthesia in gynecology. Baptisti[8], Lahmann and Mietus[9], and Hopp[10] have made valuable contributions in proving the safety and value of caudal anesthesia in obstetrics. Its use in obstetrics has been restricted because the anesthetic effect would last only forty-five minutes to one and one-half hours For this reason the use of this method had been more or less restricted to the second stage of labor and for operative deliveries. There was also a high incidence of failure to obtain the proper amount of anesthesia.

Recently Hingson and Edwards of the United States Public Health Service introduced their continuous feature and by other improvements in technic have overcome these objections. They have demonstrated the safety of extending caudal anesthesia to as high a level as the sixth thoracic segment by using relatively large volumes of anesthetic solution, and have shown how the anesthetic can safely be prolonged indefinitely by leaving the caudal needle in place and making supplemental injections as needed.

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The epidural space lies between the dura mater and the periosteum lining the bony walls of the vertebral canal. The spinal cord terminates opposite the lower edge of the first lumbar vertebra. The dura mater, however, continues beyond this and forms a sheath to the nerve roots forming the cauda equina as far as the second to third portion of the sacrum. The dura mater is firmly attached anteriorly to the vertebral bodies and inter-vertebral discs by strong fibrous strands and is surrounded by the epidural space laterally and posteriorly. Beyond the lower termination of the dural sheath the epidural space occupies the whole sacral canal, which becomes finally obliterated at the level of the first piece of the coccyx. The bony wall of the sacral canal is deficient posteriorly at its inferior termination, where a hiatus is present between the last sacral spine and the first segment of the coccyx. This hiatus is covered by the posterior sacro-coccygeal membrane through which the epidural space is injected.

The motor nerve supply of the uterus is autonomic and involves sympathetic and parasympathetic efferent fibers. Clinical evidence indicates that these fibers leave the spinal cord at higher levels than the tenth thoracic nerve. Visceral efferent fibers believed to be motor to the circular muscle of the lower uterine segment and cervix and possibly inhibitory to the remainder of the uterus travel through the para-sympathetic pelvic nerves. The sensory nerve fibers of the uterus are derived from the sympathetic nerves and ganglia of the eleventh and twelfth dorsal spinal segments. The sensory supply of the cervix and upper vagina are found in the parasympathetic plexus of the sacral nerves. The sensory and motor fibers of the lower vagina, perineum and pelvic floor are found in the perineal and pudendal nerves.

Cleland[12] showed that the pain of labor consisted of two parts, that of uterine contraction and that of distention of the birth canal. His studies confirmed by the clinical work of Hingson and Edwards, show that blocking the sacral nerve roots abolishes the pain caused by distention of the birth canal, paralyzes the skeletal muscles of the perineum, and abolishes tone in the smooth muscle of the cervix. Extending the block to include the eleventh thoracic root abolishes the pains of uterine contraction without impairing their force.

TECHNIQUE AND MANAGEMENT — Caudal anesthesia may be started when the patient is definitely in labor and is beginning to complain of her pains. She is given a cleansing enema and allowed to void, as after the anesthetic has taken effect it is impossible for her to empty her bladder voluntarily and the relaxed rectal sphincter will allow leakage with possible contamination of the field. If delivery is expected within one to two hours, the patient is carried to the delivery room, otherwise the anesthesia is started in her room. She is allowed to continue on her normal diet and fluid intake as there is no interference with digestion. She is placed on her left side with hips on the edge of the bed, the field prepared and draped. The sacral hiatus is palpated and the skin injected with a few drops of one and one half per cent metycaine solution. The needle is then inserted at a forty-five degree angle with the skin. Penetration of the sacro-coccygeal ligament is announced by a sudden release of resistance until the point strikes the anterior wall of the sacral canal. It is then slightly withdrawn and pushed upward for a distance of one and one-half to two inches. The stilette is withdrawn and if no spinal fluid appears, an empty syringe is attached and aspiration attempted in order to preclude the possibility of having punctured the dural sac or entered a blood vessel. If neither spinal fluid nor blood is obtained, eight cc. of one and one half per cent of metycaine in normal saline is slowly injected and ten minutes allowed to elapse to see that a low spinal anesthetic does not take place. This precaution was suggested by Hingson and Edwards in their recent article. Without relief of pain and loss of motor power in the lower extremities within ten minutes one can safely assume that the subarachnoid space had not been taken and thirty cc. of anesthetic solution is slowly injected, and should go into the epidural space almost without resistance. The development of a tumefaction beneath the skin indicates a subcutaneous rather than an epidural infiltration. During the injection the patient will experience a sensation of fullness, tingling or numbness, varying to discomfort in one or both extremities. This varies directly with the amount of the solution and rate of injection. These symptoms were never severe and disappeared when the injection was completed. Anesthesia is complete in ten to fifteen minutes and involves progressively the areas supplied by the coccygeal, hemorrhoidal, perineal, pudendal, ilio-inguinal and ilio-hypogastric nerves. Uterine contractions cease for fifteen to twenty minutes and then resume their previous rhythm and intensity but without pain to the patient. Some cases will require more than thirty cc. of the anesthetic solution to obtain complete relief of contraction pains. After waiting thirty minutes, if uterine contractions are not relieved, twenty cc. of additional anesthetic fluid is injected. Formerly I replaced the stilette and removed it for each supplemental injection, which is required when the anesthetic begins to wear off. More recently the continuous apparatus described by Hingson and Edwards has been used and is a distinct advantage in technic. Supplemental injections of twenty to twenty-five cc. at intervals of forty-five to ninety minutes will keep the patient from feeling pain until delivery and repair are accomplished. When the presenting part appears at the vulva the patient is carried to the delivery room and preparations made for delivery.

In regard to the effect on the first stage of labor, the impression is that this stage is definitely shortened. Blocking of the nerves to the cervix hastens dilation and retraction while the contraction of the smooth muscle of the body of the uterus goes on unabated. When the presenting part appears at the vulva progress will cease as there is no reflex urge to use her voluntary expulsive powers. Because of this, precipitate delivery does not occur and there is ample time to get the patient to the delivery room and prepare her properly. With the hand on the uterus in order to detect uterine contractions, the patient is instructed to use her voluntary efforts to complete the delivery. This she is most willing to do as there is no pain. Most multipara will deliver spontaneously and without laceration. Primipara will also deliver spontaneously if given sufficient time, but episiotomy with or without outlet forceps and proper repair will conserve the tone of the perineum as well as save considerable time.

The babies all cry spontaneously and very promptly, as the caudal anesthesia does not affect them and since using this method not one baby has had to be resusitated.

The third stage is characterized by maintenance of good uterine tone and definite shortening of this stage of labor with less loss of blood than occurs in other methods of handling these cases. In none of our cases did postpartum hemorrhage occur. The placenta is allowed to separate spontaneously and simple expression employed to expel it. The episiotomy incision or any laceration, though rarely incurred, is painlessly repaired after which the caudal needle is removed and the site of puncture sealed with collodion.

In this series studied there were 110 cases in which caudal injection was attempted. In only two cases did we fail to get into the caudal canal, one due to deformity involving the sacral hiatus and the other due to a thick pad of adipose tissue and inability to palpate the hiatus. In three other cases the attempt was discontinued because of repeated aspiration of blood and fear of intravenous injection. Seven cases obtained only partial relief of the contraction pains and were given supplemental gas or ether for relief.

Of the remaining ninety-eight cases, sixty-three were given caudal injections only for delivery, after full cervical dilatation. Most of these cases had some form of obstetrical analgesia during the first stage as morphine and scopolamine or nembutal and scopolamine or nembutal alone. For the first cases, caudal was used in preference to gas or ether because of respiratory infections or toxemia. I had previously had considerable experience in giving caudal injections for cystoscopic examinations and rectal operations and attempted the first few cases in obstetrics more or less to test its efficiency. The method worked so satisfactorily that I began to use it more often, especially when I felt that a general anesthetic was contraindicated. In 1942 when for a period we were without the services of a competent anesthetist to administer gas, I was forced to use it almost routinely. Since then caudal anesthesia has been preferred to gas or ether. In October 1942 following Hingson and Edwards' first publication, the needle was not removed, and repeated injections were given as required. Gradually the injections were started earlier and less nembutal and scopolamine, etc., used in the first stage. In the last thirty-five cases no other analgesic has been used and the caudal has been started after an examination has revealed the patient definitely in labor, complaining of her distress, and contractions coming every five to six minutes. The continuous apparatus has been a decided improvement in technic. Only two of these last thirty-five cases have had supplemental anesthesia — one because the needle was removed too soon and the other because the patient failed to obtain relief from the contraction pains on one side of the abdomen. In this case the perineum was repaired without further inhalation anesthesia.

In this small series one and one-half per cent metycaine was used as the anesthetizing agent and continued for an average period of five and one-half hours, the longest being twelve hours and forty minutes and the shortest one hour and ten minutes. Thirty cc. supplemented whenever the patient would feel that the contraction pain was returning. This is always the first to recur and requires additional injections in from forty-five minutes to one and one-half hours. Thirty-three of the thirty-five cases were completely relieved of pain from ten to fifteen minutes after the first injection until the delivery and repair had been accomplished.

Complications encountered have been of minor character. There has been no incidence of vascular collapse as encountered in spinal anesthesia. In fact, there were only minor variations in pulse rate and blood pressure. A peculiar feeling very difficult for the patient to describe, but associated with numbness and tingling in lower extremities, was the most common symptom complained of, and this passed off within a few minutes. Vertigo accurred in three cases but ceased very promptly after stopping the injection. Vomiting occurred in several instances but was never severe. All patients were allowed liquid and some received a regular tray at mealtime despite active and advanced labor. Two patients complained of headache during each injection, none complained of post-delivery headache. Backache for twelve to forty-eight hours after delivery was the most common post-delivery complaint. This occurred in the sacral region and was relieved by use of hot pads and occasionally codeine with aspirin.

Examination on leaving the hospital and at the six weeks' postpartum check-up revealed no remote sequelae that could be attributed to the method.

In summarizing my experience with caudal anesthesia in 110 obstetrical cases over a period of the last eight years, thirty-five of which were begun early in labor and managed by a modified Hingson and Edwards technic, the following advantages may be mentioned:

(1) The method affords a painless labor and delivery which is safe for both mother and child and can be continued as long as necessary.

(2) It is of special advantage when inhalation anesthesia is contraindicated.

(3) The baby is not affected and resusitation problems, seen so often in narcotized infants when other methods are used, have been eliminated. There was no fetal mortality in this small series.

(4) Consciousness and voluntary motion on the part of the mother is not impaired.

(5) The uterus contracts and relaxes normally throughout labor which is definitely shortened due to cervical and pelvic floor relaxation.

(6) Precipitation is less likely to occur and definite control of the second stage is facilitated.

(7) The third stage is characterized by early separation and simple expression of the placenta with minimum loss of blood. There was no postpartum hemorrhage in the series.

(8) In abnormal presentation posterior occiput is easily corrected either manually or with forceps. Breech delivery is aided by the voluntary coöperation of the patient in the second stage.

Conclusion — An old method of regional block anesthesia which is comparatively new in obstetrics has been discussed, technic described and personal experience with 110 obstetrical cases briefly outlined. It offers a feasible and more efficacious anesthesia for operative obstetrics and by repeated fractional injections of one and one-half per cent metycaine gives us a safe method for effectively relieving the pains of childbirth.

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Discussions

Dr. R. C. O'Ferrall (Jackson)—Dr. Lucas has brought to our attention one of the most widely discussed subjects in obstetrics at the present time. Of course all doctors, and particularly obstetricians, are interested in this method of relieving pain at childbirth. Not only are the doctors interested, but all women who are now pregnant, and many who expect to become pregnant, are questioning their physicians in regard to this new method of painless delivery.

I feel apologetic in discussing this paper because in my own practice I have not used caudal anesthesia in obstetrics. Judging from the articles in the literature, it has been most effective and in almost every case it has proved entirely safe; however, I would like to caution those who use it about some of its pitfalls.

I do not think that caudal anesthesia should be employed without the use of a trained, capable anesthetist who can attend the patient throughout the administration of the anesthetic. It is mainly due to this fact that I have not used caudal anesthesia in my obstetrical cases. Our anesthetic staff is so limited that none of them have had the time to devote to this particular field. Of course, the greatest danger in the use of caudal anesthesia is in allowing the anesthetic to enter the subarachnoid space. It is difficult at times to ascertain definitely that the needle is outside the subarachnoid space. I know that many of you in doing spinal punctures, are unable to aspirate the spinal fluid by suction when you are sure that you are in the spinal canal, and when suction is not allowed the fluid will escape by gravitation. For this reason I would like to suggest that in giving caudal anesthesia, in my opinion, it is better not to have the patient in the knee-chest position but on the right or left side, because in the knee-chest position it would be almost impossible for the fluid to escape by gravity unless the spinal pressure were greatly increased. If the patient is on the side and if the needle should enter the subarachnoid space, you are more likely to have the spinal fluid exude or drip from the needle.

In an article by Block and Rochberg, from the Obstetrical Service of the Sinai Hospital in Baltimore, they report a series of 39 cases; however, prior to the recent interest in caudal anesthesia in obstetrics approximately 600 cases in this hospital in Baltimore were delivered under caudal anesthesia. There were three deaths in this 600 cases attributed to the anesthesia. Because of these three deaths the use of caudal anesthesia was discontinued. In the recent series of cases Block and Rochberg used the continuous drip method instead of the repeated injections. This method consists of the same procedure of introducing the needle into the sacral canal but instead of injections of 30 cc. fluid at the beginning of the anesthetic, it is connected with the drip outfit with a speed of 15 to 20 drops per minute. They state that pain will be relieved in 15 to 20 minutes. In a case of this type, however, they reported complications. The patient was apparently having severe pain and instead of letting the anesthesia drip in at the rate of 15 to 20 drops per minute, they injected 10 cc. into the canal after having first assured themselves that the needle was not in the subarachnoid space. After waiting 8 to 10 minutes the fluid was allowed to drip at the rate of speed of 15 to 20 drops per minute; in a short time patient complained of inability to move her legs, with rapidly developing cardiac and respiratory failure. By immediate discontinuation of the anesthesia and with artificial respiration and other stimulants, they were able to overcome the circulatory failure and paralysis after 45 minutes. It has been my unfortunate experience to have the same occurrence from spinal anesthesia given the preparation for Caesarean section. The patient went into almost immediate collapse with complete respiratory failure for one hour. We were able to hear the foetal heart and detect the radial pulse at all times, however, it was at times very weak and faint. The patient was given artificial respiration for one hour with the Emerson respirator. Fortunately, she was restored to her normal condition and 24 hours later, under local infiltration and sodium pentothal intravenously, Caesarean section was done.

In all series of cases reported, numerous instances of the needle breaking off during the administration of the anesthesia have been experienced. While this is not a serious accident, on the other hand, we want to avoid it if possible. I believe the method practiced at the Mayo Clinic of introducing a small ureteral catheter, approximately a No. 5, through the needle into the sacral space and withdrawing the needle, would overcome this difficulty.

Dr. Lucas reported in one case that unilateral anesthesia was obtained. In the report by Hingson and Edwards unilateral anesthesia was encountered in four cases. They were able to correct easily this by simply rotating the needle to the opposite side. When this was done, there was complete relief of pain.

In spite of these few hazards which might arise, I feel that caudal anesthesia has a very definite place in modern obstetrics and that the advantages of it far outweigh the disadvantages, but we must use it with caution and extreme care.

Dr. J. P. Culpepper (Hattiesburg)—This paper of Dr. Lucas' is very timely because this question of caudal anesthesia has been written up in both *Time* and *Life,* and we know when a medical subject gets into a lay journal the public oftentimes gets a false impression or the wrong idea concerning what the doctor had in mind. This question is before us because it has had a lot of publicity and our patients are beginning to ask for it. But this is only a revival of a very old subject. Caudal anesthesia goes back to forty or fifty years. It has been used in surgery of various types for a long time. For many years our profession has been looking for something to alleviate the pains of childbirth, and at various times caudal anesthesia has been tried in various forms. There are several things that we must be confronted with and face squarely, before we determine to adopt the principle of caudal anesthesia. We can not turn the process over to a nurse. The patient must be hospitalized. Only recently I have returned from Mayo Clinic, where the technique that Dr. O'Ferrall spoke of was used for a while altogether. They had several accidents and for that reason practically abandoned it. They had several needles that were broken off and proved a problem; they also had a death or two from the needle puncturing the neural sac after the anesthetist had started to insert it. No man can conscientiously go into this without realizing the fact that it is hazardous, and making up his mind at the same time that he is going to give his time to it. I wish to congratulate Dr. Lucas on his excellent paper.

Dr. Lucas (closing) — I don't think this method of anesthesia should be used without the aid of a trained anesthetist to administer it. Another thing, the physician must stay with his patient when he introduces the needle into the caudal canal and leaves it there. These patients do not suffer after they have had the first dose, and they are perfectly willing to coöperate in every way, but these patients must not be allowed to turn over by themselves or without someone helping to make sure that the needle is not moved when it is in the caudal canal.

The danger of penetrating the subarachnoid space no doubt is a real one. If it is done with the patient lying on her side, it can be aspirated. I sometimes have my patients move to see if that will bring it out. This, of course, can be a real tragedy and utmost care must be exercised.

Another thing to stress is to avoid the intravenous injection. I have had to stop because on moving the needle I obtained blood and I think probably the patient got too rapid absorption. I have not had any broken needles. We have been careful about the use of these needles and when they get old and rusty we do not use them any more. It is my personal opinion that caudal anesthesia is a great advance in alleviating the pains of labor. I do not believe it should be given routinely, nor should it be given to relieve all of the pain of childbirth. I think the patient should be well advanced in labor before she has it. It works very satisfactorily when a woman is suffering and the doctor has a trained anesthetist available and particularly one who has had some experience in using this method. I want to thank you for the discussion.

Abstracts of Newer Things in Obstetrics

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THIS SUBJECT was chosen on the spur of the moment, and your author little realized what a big one it is. As time passed I began to feel like the nigger in the graveyard, a little ashy and pale, but will try to cover some of the newer things that have appeared in recent years; at the same time taking the privilege of broadening out on a few pets of my own.

The problem of the successful handling of pregnancies, their safe delivery, both for mother and child, and the mother's complete restoration to normal, has been a subject of much interest for many years. Boer in 1810 raised the question as to whether or not parturition is a normal process. He hoped to find it normal, but concluded that it usually is not. DeLee estimates that the annual mortality in the United States, actually reported and hidden, to be at least 25,000. This, of course, represents the worst possible side of the picture, representing a gross mortality of almost one per hundred.

Between three and five per cent of full term babies die during delivery. This is also quite high. Birth injuries to the newborn are common, and who of us can deny that some of our abnormal citizens, with low mentality or criminal tendencies, may not be due to intracranial injuries, sustained at birth. If we will recall, all of us have had tight, difficult forceps deliveries, hard to expel heads in breech extractions, and other close calls, and marvel that we had a living baby. Now the parietal, frontal, and occipital bones are loose, at full term, as we are aware, and not uncommonly override even in normal labor, not to speak of the tight squeeze cases which may and usually do subject the brain to much pressure. It would be interesting to label and follow the career of 100 or 1000 children who were tedious deliveries, until they are thirty-five years old. Against that would it also not be illuminating to watch the progress of 100 or so persons who had been born by Caesarean section? In that way, we might possibly evaluate the effect of molding and pressure on the brain; but, as far as I am aware, this has never been done on a large scale.

The average normal female is not completely equipped to have babies. She is the victim of much trouble, bringing some of it, at best, on herself. For instance: the tiny, below 90-pounds girl, slenderly built, small pelvis type, is notorious to choose a regular football center weighing 220 pounds for a husband. Naturally heredity is sure to give her an above-sized child, frequently with a large, firm head, that molds poorly. Again, girls are not active enough in adolescence, arriving, at the married state, overweight and out of proportion, inactive, sedentary in habits, with soft, poor muscle structure.

Another sizeable group have had incidents in earlier life that place handicaps upon them for childbearing such as rheumatic heart disease, nephritis, following the exanthemata diseases, asthma, and the like. The endocrines also play their devastating role. The hyperthyroid girl who is nervous, with a fast heart, and is excessively thin, wants a baby, nevertheless. Such is our problem. How to face some of them takes the ingenuity of a Philadelphia lawyer. It is also hard for the rank and file to understand. We should, for our own protection, do some educational work. People expect perfection in obstetrics, and it *can not* be obtained in its entirety. How often we do a difficult forceps, a rotation or breech extraction and come out and tell the folks "Everything is all right." Not the surgeon—he says, after a major operation, "Everything is satisfactory, so far. We must wait a few days for developments."

Now for a few extracts of later articles on obstetrics. Dr. Browder, in Vancouver, Washington, reported his experiences in the *American Journal of Obstetrics and Gynecology,* April 1942, of using parathyroid extract, 100 units hypodermically, at two to three weekly intervals to lessen edema and hypertension, in late pregnancy. This report covered 1000 pregnancies, 88 of whom had a pressure of at least 140 systolic, 38 had albuminuria and edema. Apparently all were helped. He also used the other remedies: rest, magnesium sulphate, and diet restrictions. There was no apparent harm done, and he believed the parathyroid substance activated the calcium, thus supplanting the sodium ion and the potassium ion in the blood.

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*Read before the Central Medical Society, Jackson, Miss.

Vitamins have been proved of value in the treatment of vomiting of pregnancy. Willis et al of Baylor University, Texas, report in the same above journal, of August 1942, their experiences in 82 cases of hyperemesis. They injected B_1 and B_6. All recovered. We have B complex by hypo, daily, with the usual rest in bed, sedation, and many small feedings. It is believed that this vitamin stimulates the desire for food. Diddle and Plass in the same number of this journal, claim salvage of 76% of 46 patients who threatened to abort, with bleeding and pain, by the use of gradually increasing doses of vitamin E.

There is a most interesting and conclusive article on "Morphine As an Obstetrical Analgesic" in November 1942, *Journal of Obstetrics and Gynecology*. It was written by Dr. William F. Wengert of the University of Iowa. There were 807 who received morphine, scopolamine, sodium phenobarbital or combinations of the above. He also ran 727 as controls, who received no drugs during labor. His statistics are subdivided as to premature infants, operative deliveries, etc., but is summed up in a few of his closing sentences, "A pregnant woman may be given morphine without stint and without fear for her child. It is only when the drug is given a parturient woman, and then within two or three hours of her delivery, that respiratory embarrassment may be anticipated." His report bears out the fact that grain $\frac{1}{6}$ or even grain $\frac{1}{4}$ of morphine given fairly early in the labor of a primipara is not harmful but on the other hand quite useful. The other drugs used, particularly scopolamine, do not seem to retard spontaneous breathing in the newborn.

On the subject of pain relieving drugs, Drs. Roby and Schumann, Harvard Medical School, make an interesting report of their experiences with demeral (S-140) made by the Alba Manufacturing Company. They gave it intramuscularly as soon as pains were well established, 100 mgm. and with this scopolamine grain 1/100. One two-hundredth grain of scopolamine was given in one hour. This was usually sufficient for the multigravida, but the primigravida was given grain 1/200 of scopolamine, additional, every four or five hours.

There were 112 cases reported, and the mode of deliveries was the average run; i.e., forceps, normal, and breech. Of course, ether or gas was usually used at the last. Ninety-six per cent of the babies were reported active while 16 were slow to breathe. The women were afterward questioned about their recollection of their labor. Ninety-five reported no or very little remembrance while 17 were not so good.

There were no complications due to the drug, and the authors were favorably impressed.

Again in the same medical magazine, (*Journal Obstetrics and Gynecology,* February, 1943) Drs. Gilbert and Dixon, reported for Union Memorial Hospital on demeral as an analgesic, 150 women being the number. However, they used from 100 to 650 mgs. of demeral, using it entirely for 70 deliveries. Caudal anesthesia was used with it in 75 cases, ether and oxygen in 74, no anesthetic in one. The average length of labor was nine hours.

Their conclusions on demeral are stated: It noticeably shortens labor, 2) frequently is all that a patient needs except gas at the last, 3) no bad effect on the baby, 4) can be given apparently safely up to 650 mgm., 5) combines well with seconal, 6) adaptable to the multipara who delivers so quickly.

One of the most valuable articles that has turned up, for the use of the busy practitioner in the country, came out in the *Journal Obstetrics and Gynecology,* May 1942, by Drs. Douglas and Linn, entitled "The Use of Paraldehyde with Particular Reference to its Use in Eclampsia." These men are at the University Hospital, Baltimore, and have used paraldehyde since 1934. They find it a safe, positive analgesic, which usually may be given by mouth with simple elixir or fruit juices in doses of 8 to 12 teaspoonfuls. If the patient can not swallow, or is unconscious, 10 to 15 drams may be given rectally with an equal quantity of olive oil. It should be thoroughly chilled and swallowed quickly, if taken by mouth. The effect begins by mouth in 15 to 20 minutes and lasts six hours. By rectum, its full effect does not begin for about an hour, and lasts a similar length of time.

Most of the labors require an addition of inhalation anesthetic for delivery, or local injection or block, but the requirement is less.

This paper then takes up the subject of the sedation of the convulsion patient. There were 48 such cases. The dose initially given was 10 drams with olive oil by rectum. They watch these patients constantly, take frequent blood pressure readings, and treat them energetically with concentrated intravenous fluid, epsom salts by mouth, etc. The dose of paraldehyde is repeated as soon as the patient gets slightly restless, until the storm is over, or labor supervenes, when paraldehyde is continued for relief. They reported 2% maternal deaths in the group given paraldehyde and 14% mortality in a control group. The infant mortality was given 28% in the paraldehyde group and 22% in the control group. Thus a method of control of convulsions has been described that salvages seven times as many mothers and gives virtually the same results with live babies.

We have used it as a supplemental analgesic, always by rectum, and like its effects very much. It is almost ideal for the multipara who only requires a short, but nevertheless deep, analgesic.

There is no doubt to all of us that morphine is *not* a good drug to give an eclamptic, therefore the use of such drugs as paraldehyde should be tried and supplemented for the too often dose of morphine.

An excellent article appeared in the *Illinois Medical Journal,* February 1943, on "Fetal Distress During Labor" by Dr. Lund. He states that primary oxygen want produces many fetal deaths. The factors concerned are then enumerated:

1) Anoxic anoxia—poor oxygen saturation of blood, 2) anemic anoxia—oxygen-carrying ability of the blood is diminished, 3) stagnant anoxia—poor circulation of the blood, 4) histotoxic anoxia—the inability of cells to utilize the oxygen that is there in sufficient amounts.

The first point of failure may be the mother. She may be breathing an atmosphere deficient in oxygen, commonly seen during a general anesthetic. Obstruction of her breathing passages may be another cause, such as deep snoring, relaxation of the pharynx, also excessive mucus. The inspiration of vomited food is a real danger to both mother and child.

Metabolic diseases are also responsible for deficient oxygen supply to the fetus, such as hyperthyroidism, diabetes, high fevers, excessive excitement, and activity during labor. Maternal heart failure will give the infant lessened oxygen supply. Abnormalities of the placenta such as placenta separation, placenta previa, are causes. Cord occlusion, prolapsed cord, many tight loops around the neck of the baby, may shut down its oxygen supply.

Any drug which markedly slows the fetal circulation by the same token reduces its available oxygen.

The diagnosis of fetal distress is not easy, but violent fetal movements during labor, a progressive slowing down of the fetal heart rate, without a return to near normal after a pain, is significant. If the fetal heart rate is 160 at the beginning of labor and gradually slows down to 110 or so, the fetus is being starved of oxygen. On the other hand, many babies have a heart rate of 120 at the start of labor.

If the therapeutic test is made of giving the mother oxygen in case of fetal heart slowing, the infant's heart rate will usually pick up. The author urges us not to drag the infant hurriedly through by forceps or the heels in case of the fetal distress, but to administer oxygen to the mother.

In "The Sulfonamides in Obstetrics and Gynecology," in *Western Journal of Surgery, Obstetrics and Gynecology,* October 1942, Paul Fletcher insists that smears and cultures are the best index of the proper drug to use. Treatment should be begun early, carried through systematically, dosage should be adequate, accurate and regular.

Sulfanilamide, the oldest and best understood drug, is easily given, fairly well tolerated and rapidly excreted. However, its place is now being taken by newer sulfonamides, though it is still occasionally best, especially for the hemolytic streptococcus infections, chancroid, and gas gangrene. It is the best absorbed sulfonamide when given by rectum. Sulfapyridine is not of much use in our field.

Sulfathiazole is about our best of these drugs. It is rapidly absorbed but as rapidly excreted, so must be given at fairly frequent intervals. It has a slight tendency to precipitate crystals in the urinary tract. It is the drug of choice in staphylococcus infections, gonorrhea, and colon bacillus infections. Most infections of the genitourinary tract are controlled by its use.

This author urges an initial dose of four grams (60 grains) followed by one gram (15 grains) doses every four hours. It is fairly well tolerated and may be used a reasonably long time. It sometimes produces fever. Sodium sulfathiazole may be given by vein if need be Sulfadiazine is highly effective against most pathologic bacteria. It is slower in being excreted so the maintenance dose is smaller or given further apart. Practically 100% is excreted by the kidneys. Dosage is best controlled by blood assays.

The fevers following abortion and delivery are particularly susceptible to the effects of the sulfonamides, but he warns that a carefully obtained culture is the best way to find out the one to use. He also speculates on the use of these drugs as a prophylactic before operative delivery, or a delivery in the presence of a potential or real infection.

Very little is said of the use of sulfathiazole in pyelitis of pregnancy, where we have found it most useful. The dosage is moderate, 45 grains daily for 6 to 7 days, then 30 grains twice daily for ten days.

As an outstanding contribution to obstetrics, Hugson and Edward reported the use of continuous caudal analgesic. In their report the entire course of six hundred labors and deliveries was conducted without resorting to any other form of anesthetic. Without question their results were excellent. As a claim for superiority of this method, the authors cite the following: The patient is awake, she may read, listen to radio, enjoy visitors, and is entirely comfortable, enjoys natural sleep and rest and thus is able to conserve her energy. Progress is expedited due to relaxation of the soft parts, but precipitation birth is at a minimum due to the lack of expulsive force. There is no interference with progress of labor in the first stages; however, the authors routinely practice low forceps and episiotomy.

In the series reported 11% were failures as far as analgesic was concerned. However, as with all procedures, there are both indications and contraindications for its best use, and far from being completely the last word in painless labor, continuous caudal anesthesia is only another contribution in the search for the completely perfect analgesic. Hesseltine in a report of a small series outlines both the indications and contraindications to the use of this type of analgesic.

Indications—1) It is useful as nerve block anesthetic where general anesthetic is contraindicated, such as pulmonary tuberculosis and upper respiratory infection, 2) the uterus maintains normal tone and continues its normal mechanism, 3) narcotics are eliminated entirely, 4) the procedure is relatively simple for one skilled in its technique, 5) patients are calm, quiet, and relaxed.

Contraindications—1) There is danger of injecting solution direct into the subarachnoid space, 2) there is loss of subjective pain element as an aid in progress of labor (this point is questionable if all patients are closely watched), 3) it is not a time-saving procedure compared to other methods, but requires constant attendance of the physician, 4) prolongation of second stage occurs, 5) failure to relax the uterus makes it of no benefit when a forceps rotation or version requires complete uterine relaxation, 6) configuration of sacrum and puncture of dural sac will allow for failure, 7) toxic and cardiac patients are not safe prospects, 8) it is for use exclusively in hospitals due to technique and danger of complication.

Technique—After $\frac{3}{4}$ dilatation of the cervix, or when labor is definitely established, the patient is placed in knee-elbow position (or possibly on her side) and after antiseptic care to the skin, a wheel is raised in the skin at the lower edge of the hiatus. Then a flexible spinal needle, with the stylus in place, is passed through the skin, the tough ligament, under the sacral hiatus until the floor is reached, the needle being held at a 20-degree angle to the skin, the acute angle formed being toward the heels. As soon as this point is reached (about one inch deep) the needle is raised to 40 degrees and advanced another inch. Then remove the stylus and see if blood or spinal fluid drips then. If not, you are ready to inject. Inject 8 cc. of $1\frac{1}{2}\%$ solution of metycaine (Lilly), wait ten minutes and see if there are indications of entering the spinal fluid, such as numbness and paralysis of legs. (This is undesirable and indicates of course that the operator is giving a spinal anesthetic, not a caudal.) If this does not occur, inject the remaining 22 cc. making 30 cc. in all. The needle is plugged and strapped in place with a little sterile gauze and adhesive. This anesthetic is usually effective in twenty minutes and lasts three to eight hours. It may be repeated as needed, and the episiotomy, low forceps and repair can be done with no pain and no discomfort. The perineum is markedly relaxed after its use, thus episiotomy and ironing out are reduced to the minimum.

In conclusion, it was thought that a few brief statistics might be interesting. The Methodist Hospital, Memphis, Tennessee, handles a great load of obstetrics, considering its size. It has a great variety of doctors who do obstetrics. Six or seven men are obstetrical specialists, the rest are general practitioners. About 15% of the cases are charity, the rest are private patients. No doctor who is not a qualified obstetrician is permitted to do major obstetrical operations without consultation, and most of the specialists, except in emergencies, also call consultation in such cases. There were delivered in this hospital, since August 1941, 3394 patients, without a single death of a mother. There were 153 mid forceps, one high forceps (none are done any more), 11 versions, and 245 Caesarean sections. I am sure no one has ever reported 245 consecutive Caesarean sections without a maternal death. This is an incidence of 7% sections. The fetal mortality is normal, but the exact figures are not available. When one sees the emergencies in hemorrhage, eclampsia, severe nephritis with placental separation, that we get on charity service, and occasionally referred as private patients, we have concluded that the Lord has been more than kind to us.

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Elements of Medical Statistics

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IV. THE MEASUREMENTS OF THE CENTRAL AND DISPERSAL CHARACTERISTICS OF DATA.

WHEN biometrical data has been collected, assorted, and organized into their respective categories they are then ready for study and analysis. In a mass of related experiences in a single category it is desirable to know some things about the "hub," "axis," or central characteristics of the experiences, and it is also desirable to know some things about the "spread," "fluctuation," or dispersal characteristics of the experiences. A knowledge of the central and dispersal characteristics of data is a first step in the evaluation of data.

The central characteristics of massed data are commonly expressed mathematically in one of three centering constants, namely, the *mean,* the *median,* and the *mode.* The *mean* is the arithmetic average of the "weights" of the several observations, or it is the true "center of gravity" of the data. The *median* is the "weight" of the middle observation when the total observations are arranged in a seriated order of magnitude of their "weights." The *mode* is the midclass value of that class showing the greatest frequency. In an ideal frequency distribution the *mean,* the *median,* and the *mode* have identical values.

In addition to the need for knowing the "axis" about which the data "rotates" or is distributed, it is also desirable to know the "radius" or limit of distribution of the massed data. This information is given by the *range* of the "weights" of the observations. However, while a knowledge of the *range* of a distribution is helpful, its value is limited because it tells us nothing about the "fashion" of the distribution of the "weights" of the data. What we would really like to know is the "average" value that the "weights" of the observations differ from the *mean* "weight" of the observations. That is, in our "see-saw" of frequency distribution at what points on the "board" to each side of the "center of

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gravity (*mean*) can we accumulate the "weights" of the observations so that the "board" will be in "balance"? This position is known to the engineer as the *moments of inertia,* and to the statistician it is known as the *standard deviation.* In many respects the *standard deviation* is the key to most of the statistical tests.

THE MEAN

The *mean* is the most commonly used centering constant. The basic formula for calculating the arithmetic *mean* is, as follows:

$$M = \frac{\Sigma fv}{\Sigma f} \text{ ; where}$$

M is the arithmetic *mean,*
v is the value or "weight" of the observation, when single, or the midclass value, when the observations are grouped,
f is the individual or class frequency, and
Σ denotes summation.

In ungrouped data the *mean* is calculated, as follows:

Body Weights (v)	No. of Cases (f)	(fv)
144	1	144
130	1	130
120	1	120
136	1	136
135	1	135
127	1	127
	6	792

$$M = \frac{\Sigma fv}{\Sigma f} = \frac{792}{6} = 132.$$

The mean weight of the above six cases is 132 pounds.

In grouped data the *mean* is calculated, as follows:

Class Weights	Midclass Weight (v)	No of Cases (f)	(fv)
199-190	195	1	195
189-180	185	3	555
179-170	175	5	875
169-160	165	10	1650
159-150	155	8	1240
149-140	145	5	725
139-130	135	2	270
129-120	125	1	125
		35	5635

$$M = \frac{\Sigma fv}{\Sigma f} = \frac{5635}{35} = 161$$

The *mean* weight of the 35 cases is 161 pounds.

In grouped data where the number of classes and the class frequencies are large the mathematics involved in calculating the *mean* can be simplified by assuming an arbitrary mean, usually at one of the midclass intervals, and applying the following formula:

$$M = M_o + i\left\{\frac{\Sigma f(v-M_o)}{\Sigma f}\right\} \text{ ; where}$$

M is the arithmetic *mean,*
M_o is an assumed or arbitrary mean,
i is the value of the class intervals,
f is the frequency of the individual classes,
$v-M_o$ is the individual midclass differences from the assumed mean in class units, and
Σ denotes summation.

For example:

Class Weights	Midclass Weight. (v)	No. of Cases (f)	$(v-M_o)$	$f(v-M_o)$
199-190	195	1	+ 3	+ 3
189-180	185	3	+ 2	+ 6
179-170	175	5	+ 1	+ 5
169-160	165	10	0	0
159-150	155	8	- 1	- 8
149-140	145	5	- 2	-10
139-130	135	2	- 3	- 6
129-120	125	1	- 4	- 4
		35		-14

In applying the above formula any arbitrary mean may be chosen but when an arbitrary mean is chosen which is close to the true mean the mechanics of the mathematics is simplified. By inspecting the above data it is suggested that the true mean lies somewhere in the neighborhood of the class 169-160, therefore we chose the midclass value of that class, or 165, for our assumed mean. Such a choice then made each of the other classes (midclass values) deviate from the assumed mean by whole class units; that is, by plus or minus 1, 2, 3, etc.

$$M = M_o + i\left\{\frac{\Sigma f(v-M_o)}{\Sigma f}\right\} = 165 + 10\left\{\frac{-14}{35}\right\} = 165 + (-4) = 161.$$

THE MEDIAN

The *median* is the value of the observation above which and below which half or fifty per cent of the total number of the observations fall. That is, the *median* is the pivotal observed value. With ungrouped data the median may be obtained by arranging the observed values in their ascending order of magnitude and then selecting the value of the middle observation, when the number of observations are uneven, or averaging the values of the two central observations, when the number of observations are even. For example in the series: 190, 185, 182, 180, 179, 177, 176, 160, 159, 158, 155, 152, 150, the *median* is the value of the seventh observation, or 176. In the series: 190, 185, 182, 180, 179, 177, 160, 159, 158, 155, 152, the *median* lies half way between the sixth and the seventh observation, or its value is

$$\frac{177 + 170}{2} = 173.5.$$

For grouped data the *median* is calculated, as follows:

$$Mdn = LL + i\left\{\frac{\frac{N}{2} - f_{(cum)}^{UP}}{f_{mdn}}\right\}; \text{ where}$$

Mdn is the *median,*

LL is the lower limit of the median class interval,

i is the value of the class intervals,

N is the total number of observations or frequencies, that is, Σf,

f(cum)UP is the accumulated frequencies by classes from the lowest class up to the class of the median interval, and

fmdn is the frequency of the median interval.

For example:

Class Weights	(f)	(f UP) ((cum))	
199-190	1	35	
189-180	3	34	
179-170	5	31	
169-160	10	26	Median interval
159-150	8	16	
149-140	5	8	
139-130	2	3	
129-120	1	1	
	35		

$$Mdn = LL + i\left(\frac{\frac{N}{2} - f_{(cum)}^{UP}}{f_{mdn}}\right) = 160 + 10\left(\frac{\frac{35}{2} - 16}{10}\right) = 160 + 1.5 = 161.5$$

In applying the above formula a frequency table is set up with an additional column for accumulating the class frequencies from the bottom upward. The accumulated frequency for the bottom class is its own class frequency, the accumulated frequency for the next to the bottom class is the sum of its own frequency and the frequency of the bottom class, the accumulated frequency for the third from the bottom class is the sum of its own frequency and the frequencies of all lower classes, and so on until the total class frequencies are accumulated. By definition we know that the middle observation contains the value of the *median.* The middle value in a frequency of 35 is 35/2, or 17.5. By an inspection of the accumulated frequencies we find that 17.5 is incorporated in the accumulated frequency of the class 169-160. That is, the value of the middle observation or the *median* is to be found somewhere in the class range of 169 to 160. Therefore, this class is called the *median interval.* To obtain the *median* we must interpolate in this class and add the interpolated value to the lower limit of the class in questian, namely, 160. When we interpolate in a class we must assume that the frequencies in that class are equally distributed. As 16 frequencies were used in reaching the lower limit of the median interval, then 17.5 - 16 = 1.5, or the number of frequencies that the *median* has entered the median interval. The ratio of the middle frequency to the total median interval frequency is 1.5 to 10, or 0.15. The class interval is 10 pounds, therefore 0.15 x 10 = 1.5, or the number of pounds that the *median* exceeds the lower limit of the median interval. As the lower limit of the median interval is 160 pounds, then the median is 160 + 1.5 = 161.5, or the value of the *median.*

The *median* has the advantage that it can be computed with accuracy when the more extreme variates are known only roughly. It can often be determined by inspection. It is especially useful with eratically spaced and non-quantitative variates. Unlike the *mean* it is little affected by extreme variates due to special cases like the heights of dwarfs or giants included in the series of measurements.

THE MODE

In a frequency distribution the *mode* is the midclass value of the class with the greatest frequency. The *empirical mode* is that value which is found on inspection of a group of seriated data. In the previously presented group data the *empirical mode* is the midclass of 169-160, or 165. The *theoretical mode* can be derived from the formula: Mode = mean - 3 (mean - median). The *mode* always lies on the opposite side of the *median* from the *mean*. The *theoretical mode* of the aforesaid data is: Mode = 161 - 3(161 - 161.5) equal 162.5.

THE STANDARD DEVIATION

The most important mathematical constant measuring the dispersion of data is the *standard deviation;* usually written as *sigma* (σ). The *standard deviation* is the value of the value of the square root of the average of the squares of deviation of the individual observations from the *mean* value of the observations, or it is the square root of the variance. The *standard deviation* of a normal distribution marks the limits of the middle. 68.26% of the total "weight" of the data. When the value of the *standard deviation* is compared with the *mean* of the same data it gives information as to the closeness or looseness of the spread of the data.

The basic formula for calculating the *standard deviation* is, as follows:

$$\sigma = \sqrt{\frac{\Sigma f(v-M)^2}{\Sigma f}}$$

σ is the *standard deviation,*
f is the individual or class frequency,
v-M is the value of the difference between an individual observation and the mean, when the data is ungrouped, or the difference between a midclass value and the mean, when the data is grouped, and
Σ denotes summation.

In ungrouped data the *standard deviation* is calculated in two stages, as follows:

STAGE I.

Body Weights (v)	No. of Cases (f)	(fv)
190	1	190
180	1	180
170	1	170
160	1	160
140	1	140
130	1	130
120	1	120
110	1	110
	8	1200

STAGE II.

+ 40	1600	1600
+ 30	900	900
+ 20	400	400
+ 10	100	100
— 10	100	100
— 20	400	400
— 30	900	900
— 40	1600	1600
		6000

$$\text{Stage I.} \quad M = \frac{\Sigma fv}{\Sigma f} = \frac{1200}{8} = 150$$

$$\text{Stage II.} \quad \sigma = \sqrt{\frac{\Sigma f(v-M)^2}{\Sigma f}} = \sqrt{\frac{6000}{8}} = \sqrt{750} = \pm 27.39$$

In operation the *mean* is calculated first; which is 150 in the above case. Next, the mean is subtracted algebraically from each variant (v) and this gives the proper value for each respective variant-difference (v-M). Each difference is squared and then it is multiplied by its own frequency ($f(v-M)^2$). Finally, each value is summed ($\Sigma f(v-M)^2$).

In grouped data the *standard* deviation is calculated in two stages as follows:

STAGE I.				STAGE II.		
Class Weights	Midclass (v)	No. of Cases (f)	(fv)	(v-M)	$(v-M)^2$	$(f(v-M)^2)$
199-190	195	1	195	+ 35	1225	1225
189-180	185	3	555	+ 25	625	1875
179-170	175	5	875	+ 15	225	1125
169-160	165	10	1650	+ 5	25	250
159-150	155	10	1550	— 5	25	250
149-140	145	5	725	— 15	225	1125
139-130	135	3	405	— 25	625	1875

129-120	125	1	125	— 35	1225	1225
		38	6080			8950

$$\text{Stage I.} \quad M = \frac{\Sigma fv}{\Sigma f} = \frac{6080}{38} = 160$$

$$\text{Stage II.} \quad \sigma = \sqrt{\frac{\Sigma f(v-M)^2}{\Sigma f}} = \sqrt{\frac{8950}{38}} = \sqrt{235.5} = \pm 15.35$$

In operation the two stages are executed the same as they are with ungrouped data, except that the rules for grouped data are used.

For grouped data where the number of classes and the class frequencies are large the mathematics involved in calculating the *standard deviation* can be simplified by assuming an arbitrary mean, usually at one of the midclass intervals, and applying the following formula:

$$\sigma = i\sqrt{\frac{\Sigma f(v-M_o)^2}{\Sigma f} - \left\{\frac{\Sigma f(v-M_o)}{\Sigma f}\right\}^2};$$

σ is the *standard deviation,*
i is the class interval,
v-M$_o$ is the midclass interval difference from the arbitrary mean,
f is the frequency of the individual classes, and
Σ denotes summation.

Class Weights	Midclass (v)	No. of Cases (f)	$(v-M_o)$	$(v-M_o)^2$	$f(v-M_o)$	$f(v-M_o)^2$
199-190	195	1	+ 3	9	+ 3	9
189-180	185	3	+ 2	4	+ 6	12
179-170	175	5	+ 1	1	+ 5	5
169-160	165	10	0	0	0	0
159-150	155	10	- 1	1	-10	10
149-140	145	5	- 2	4	-10	20
139-130	135	3	- 3	9	- 9	27
129-120	125	1	- 4	16	- 4	16
		38			-19	99

$$\sigma = i\sqrt{\frac{\Sigma f(v-M_o)^2}{\Sigma f} - \left\{\frac{\Sigma f(v-M_o)}{\Sigma f}\right\}^2} = 10\sqrt{\frac{99}{38} - \left\{\frac{-19}{38}\right\}^2} = \pm 15.35$$

The *standard deviation* value is to be interpreted as follows: the *mean* plus and minus the *standard deviation,* expressed in the same units, gives a limiting range of unit values which embrace approximately two-thirds of the total "weights" of the observation on variants. For example, in the immediate illustration above the thirty-eight individuals had a *mean* weight of 160 pounds and a *standard deviation* weight of plus and minus 15.35 pounds. That is, the 175.35 pounds (160 + 15.35) to 144.65 pounds (160 - 15.35) range will embrace approximately two-thirds of the total "weights" of the thirty-eight individuals.

The aforementioned formulae for calculating the *standard deviation* contain an inherent mathematical error which, for all practical purposes, is negligible when working with large samples but which may be serious when working with small samples. When the sample contains less than 25 observations a more accurate *standard deviation* is obtained by dividing by a number one less than the number of observations, namely, (Σf - 1).

Some biometricians use the *probable error* instead of the *standard deviation* as a constant expressing the dispersal characteristic of data. The *probable error* differs from the *standard deviation* in that it embraces one-half of the "weights" instead of two-thirds of the "weights" of the observations. The *probable error* is obtained by multiplying the *standard deviation* by the constant 0.67449.

SUMMARY

In this article we have introduced and briefly discussed the use of two basic "tools" in biometrical analysis, namely, the *mean* and the *standard deviation.* In subsequent articles we shall show various ways that these "tools" are used in biometrical analysis.

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FOUR-YEAR MEDICAL SCHOOL

The sentiment for a four-year medical school in Mississippi is growing stronger each day. The members of the legislature seem to be ready for it and so do the people back home. If ever this state is to have a four-year medischool, now is the time. Mississippi can have a set-up that will make for the very best type of medical training. Mississippi has a good set-up for a medical school if the entire hospital system is utilized as it should be. The big medical schools are training the students away from the small town and rural communities, teaching in terms of expensive equipment, interns, nurses, multiplied aids, until the young graduate does not know how to go out to a small town and practice. The army is showing the way by delivering fine medical service right on the firing lines and in the jungles. The rural communities and small towns are the jungles and the firing lines of civil life and they must have medical service because our people there are the democratic hope of the nation, the replenishing arsenal of human life. It would be a fine thing to have our instructors in the big medical schools to go out to Yellow Rabbit and Vinegar Bend and practice with Dr. Tom Smith for three months each summer until they learn something of rural medical problems, problems which are vital to the progress of the human race.

If Mississippi makes up its mind and uses its entire hospital set-up as it can be used after adding a three-to five-hundred-bed plant by the side of the medical school, it can make medical history, and its good work will be felt around the world.

* * *

Memphis, the Mid-South's outstanding city, is having a nurse problem the last few weeks it seems. The CIO spirit seems to have hit the nursing profession which has spoken out for eight hours only per day. Three nurses per day with board will run about $25.00 for the very ill patient. Interpretation of the working spirit that has run rife in this country and is not confined just to nurses alone, seems to be "let me have mine, big pay, short hours; let the world go hang and the war be lost if need be." Maybe the nurses are right, but they have taken a long step from the Florence Nightingale spirit of service. In fact, the word service may become obsolete if the present trend is a measure.

We boast about what blood plasma has done and is doing on the battle field, and it is one of the magics of science, but we seem to forget that the outcome of the war and the hope of the peace depends upon the attitude we take toward another criterion of service—Him whose blood was shed to give a groping world its true measure of greatness. There is a limit to human endurance, but the world is running on emergency gear now, and no one should take advantage of the times for selfish interest.

The adoption of the type of state medicine as provided by the Wagner Bill would be a great tragedy. Free medicine has proved to be of greater efficiency than any other type up to date: But why invite state medicine and bid for it when we know it will not be best for the profession or the people?

Doctors in the Service

Captain Fred M. Sandifer, Jr., Greenwood, Mississippi, entered the United States Army Air Forces in July 1942. He is stationed at Smyrna Army Air Fields, Smyrna, Tennessee, where he is Chief of Surgical Service at the Station Hospital.

After graduating from the University of Mississippi and from Rush Medical College, University of Chicago, he served as interne and surgical resident at Charity Hospital, New Orleans, Louisiana, from 1934 to 1940. Captain Sandifer is a fellow of American College of Surgeons; diplomate of American Board of Surgery; and a member of Nu Sigma Nu, Alpha Omega Alpha, and Phi Delta Theta fraternities.

* * * * *

(The following comes from the faithful wife of a doctor who is fighting with the boys at the front by doing his full duty at home—Ed.)

OUTSIDE OF TIME

By Melva Bates Banks

A sluice and a roar of storm 'gainst the door,
And out of the night a cry:
"Oh, Doctor, come quick! My baby's so sick—
I'm 'feared he's a-goin' to die."

(Through hazardous hills whose wrinkled brows keep
Their mud-pack makeup until it's hub-deep).

Home trek by detours—more flu at McClure's
And rain beginning to freeze.
A messenger waits, "Come to Mrs. Yates . . .
Her man's somewhere overseas."

(So, down through the valleys, up through the hills,
Take courage and hope along with the pills).

Past dawn, noon, and night-time; yet, never a 'right-time'
To heed, from the hives of men,
The strike-urge of workers, the quit-urge of shirkers,
The "more-for-overtime" din.

(To work *all* the shifts, but not by a clock,
Is the measure used by a country doc).

News and Comment

DR. EASON HEADS BOARD

Dr. S. E. Eason of New Albany was unanimously elected president of the Mississippi State Board of Health at its called meeting in Jackson in February. Dr. Eason succeeds Dr. J. W. Lipscomb of Columbus.

First appointed to the board in 1912, Dr. Eason has served twenty-eight years of the period since that time. He has always been interested and active in affairs of the State Medical Association, twice serving as vice-president and for five years as district councilor.

Dr. Eason was graduated from the Memphis Hospital Medical College and served as Union County Health Officer from 1907 to 1912.

Dr. J. P. Culpepper of Hattiesburg was elected to the three-member executive committee, composed of the president, secretary and executive officer, and one member. Dr. Culpepper is a member of the Council of the Southern Medical Association representing the Mississippi State Medical Association and has been a member of the Board since 1942.

Members of the Mississippi State Board of Health are: District 1, Dr. R. B. Caldwell, Baldwyn; District 2, Dr. Eason, New Albany; District 3, Dr. Paul G. Gamble, Greenville; District 4, Dr. B. J. Shaw, Slate Springs; District 5, Dr. W. H. Banks, Philadelphia; District 6, Dr. J. P. Culpepper, Hattiesburg; District 7, Dr. S. E. Field, Centreville; District 8, Dr. L. W. Long, Jackson; State-at-large, Dr. Felix J. Underwood, Executive Officer and Secretary, Jackson and Dr. William R. Wright, dental member, Jackson.

APPOINTED ON U. S. CHILDRENS BUREAU

Dr. Harvey F. Garrison, Sr., has again received a signal honor which will give him a fine opportunity to render service to his state and his nation. He has been appointed as a member of the Advisory Committee of the U. S. Children's Bureau in Washington. This is a deserved recognition of his outstanding ability and it is a consideration that will be appreciated by the brotherhood. More and more the medical profession must lend its valuable aid to our everyday social and economical human affairs. We feel sure that no man in the South could have been found who is better able to represent the profession in this body and to render valuable service to the child problem of America.

WINONA DISTRICT MEDICAL SOCIETY

The Winona District Medical Society met at the Simmons Hotel in Winona, December 16, 1943. After luncheon the following officers were elected: president, Dr. Edgar Giles, Avalon; secretary and treasurer, Dr. Lamar Bailey, succeeding S. B. Caruthers, Grenada; vice-presidents, who are ex-officio delegates, Atta County, S. L. Bailey; Carroll County, C. H. Holman; Choctaw County, D. H. Thomas; Grenada County, S. B. Caruthers; Holmes County, W. H. Weeks; Montgomery County, E. W. Holmes; Webster County, W. H. Curry.

The following motion was passed unanimously: "Resolved that the Winona District Medical Society go on record as being opposed to the Wagner Bill S1161 and that copies be sent to our Senators and Congressmen." Copies were sent to Senators Eastland and Bilbo and to Congressmen Abernethy and Whittington.

The following interesting program was then given:

(1) The Use of Radium in Some Common Gynecologic Conditions, by Dr. J. R. Simms, Oxford.

(2) Newer Anesthetic Agents with Especial Reference to Pentothal Sodium, by Dr. Lamar Bailey, Kosciusko.

(3) Notes Taken at Interstate Postgraduate Assembly, by Dr. J. K. Avent, Grenada.

Dr. Alton Ochsner was elected president of the Southern Surgical Association at the fifty-fifth annual meeting held in December. Dr. Ochsner, professor of surgery since 1927, has been secretary of the association for the past nine years.

Dr. Woodward D. Beacham, *Med.,* instructor in gynecology and obstetrics in the Tulane School of Medicine, has been awarded a life membership in the American College of Surgeons for the most excellent medical records presented by candidate for fellowships during this year.

The first surgeon specializing in gynecology and obstetrics to attain this honor, Dr. Beacham is the fourteenth physician to win the prize, one of the outstanding medical awards of the country. More than 700 doctors from all over the nation competed for the award, given annually by the board of directors of the magazine *Surgery, Gynecology and Obstetrics.*

The prize was given for Dr. Beacham's records of 100 cases, which were submitted in three large volumes and included over three hundred illulstrations. They will be on permanent display at the College in Chicago.

The third of four physician sons of Mrs. Ida F. Beacham and the late Dr. W. D. Beacham of Magnolia, Miss., Dr. Beacham was graduated from the Tulane School of Medicine in 1935 with honors. He served as interne and resident at Charity hospital for five years, joining the Tulane faculty in 1940. A fellow of the American College of Surgeons, he is also a diplomate of the American Board of Obstetrics and Gynecology, fellow of the American Medical Association, and a member of many other professional organizations.

RESOLUTION

Whereas, God in his infinite wisdom has seen fit to take from our midst our good friend and coworker, Claude F. Gilbert;

Whereas, he has labored among us and shared our trials, our successes, our joys and our sorrows;

Whereas, he has lived among us and proved himself a revered citizen by his civic interest and loyal support of our institutions;

Whereas, in his earnest endeavor to serve others in his chosen profession he gave not only his time but literally his life; therefore be it

Resolved by the Alcorn County Medical Society convened in our first regular meeting since his demise, that a copy of this resolution be conveyed to his widow and family expressing our deep consciousness of the loss of a sincere friend, an exemplary citizen, and a loyal physician, who was ever true to his chosen profession.

Also be it resolved that a copy of these resolutions be sent to the *Daily Corinthian,* another to the *Mississippi Doctor,* and another mailed to the family of our deceased friend.

Signed:
Dr. D. W. Hamrick,
Dr. J. R. Hill,
Dr. F. M. Davis,
Committee

Deaths

DR. J. T. RAINER

Dr. J. T. Rainer, retired physician, died Feb. 3, of a heart attack at his home in Yazoo City. He was 54.

He leaves his wife; two daughters, the Misses Sara and Lettia Rainer; a son, Staff Sergt. J. T. Rainer, Jr., stationed at the University of Chattanooga; three brothers and eight sisters.

Dr. Rainer was a graduate of the University of Tennessee and a veteran of World War I, serving two years overseas. He was active in state Legion circles, serving as district commander, national committeeman, and past commander of Roy Lammons Post No. 7. For 10 years he was vice-president of the Yazoo County Fair Association. He was a member of the Forty and Eight and held a state office. He was a Mason, Shriner and Elk.

DR. R. J. WILSON

Dr. Raleigh Jack Wilson, Kemper County physician and a colonel on Governor T. L. Bailey's staff, died February 15 after a brief illness. He was 61 years old.

Born in Kemper County in 1882, studied medicine, graduating at the University of Nashville, Tenn., in 1907, and soon thereafter moving to the Bailey community where he practiced thirty-five years.

He was a member of the Arkadelphia Baptist Church, Longstreet Masonic lodge, Scottish Rite and Shriners, and the East Mississippi Medical Association.

Dr. Wilson is survived by his widow, Mrs. Etta Harrington Wilson; mother, Mrs. Mattie Ross Wilson; daughter, Mrs. John L. White; son John W. Wilson four sisters, and two brothers.

DR. W. J. CHAPMAN

Services were held Feb. 3 for Dr. W. J. Chapman, 64, veteran Doddsville physician, who died in a Memphis hospital.

Dr. Chapman, who practiced in Doddsville 32 years, had been a physician 46 years. He was a graduate of the old Nashville Medical School.

He was a charter member of the Southern Medical Association and was a member of the Delta Medical Society, the Masons and Woodmen of the World. Dr. Chapman also was one of the charter members of the Doddsville Baptist church.

Surviving are his wife; three daughters, Mrs. Earl Ringold, Blaine, Miss.; Miss Marguerite Chapman, Doddsville, and Mrs. J. C. Lee, Tallulah, La.; a son, W. J. Chapman, Jr., Monroe, La.; five brothers, Dr. C. M. Chapman, Tunica; Dr. T. A. Chapman, Friars Point; Dr. J. H. Chapman, Columbia, Miss.; Cecil and Robert Chapman, Crystal Springs, Miss.; a sister, Mrs. Knox Huff, Forest, Miss., and a granddaughter.

DR. CLAUDE F. GILBERT

Funeral services were held January 21 in Corinth January 21 for Dr. Claude F. Gilbert, 53, who died at his home after a long illness.

Dr. Gilbert was born at Binnsville, Miss., and was educated at Mississippi A. and M. College and at the Univerity of Tennessee. He served his internship at St. Joseph's Hospital, Memphis.

He came to Corinth from Savannah, Tenn., and for 20 years was associated with Dr. Carl W. Norwood. He was a Methodist and had served many years as a member of the board of stewards. He was a Mason.

He leaves his wife, Mrs. Grace Milma Gilbert, and three daughters, Mrs. C. H. Pettyjohn, Lynchburg, Va.; Mrs. H. C. Johnson, Nashville, Tenn., and Miss Eloise Gilbert, Corinth. Other survivors are a brother, Charles Gilbert, Scooba; two sisters, Mrs. McCord Sanders, Foxtrap, Miss., and Mrs. Leo Aust, Geiger, Ala.

DR. W. M. CUNNINGHAM

Services for Dr. W. M. Cunningham, 56, who died at his home in Cumberland Furnace community, Tennessee, were held February 26 at Clarksdale, Tenn.

Dr. Cunningham was graduated from the University of Tennessee School of Medicine in 1910, and had practiced in the Cumberland Furnace community since. He was a Mason, a member of Eastern Star, Tennessee Medical Society and Episcopal Church.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthrone, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

"STREAMLINED INFANT FEEDING—A FEEDING ROUTINE UTILIZING EARLIER ADDITION OF SOLID FOODS AND FEWER FEEDINGS" — Norman W. Clein, M.D., Seattle, Washington.

The author says that this report is based on a study of a group of infants, with the object of showing that most young infants reaching the age of about 6 months can be placed on a schedule of three meals a day. This is desirable and advantageous and can be instituted with excellent results. The many practical advantages (and absence of disadvantages) are sufficient evidence to prove that this method of infant feeding is superior to that still advocated in the standard pediatric textbooks. We have used this method of feeding for the past twelve years in approximately 3,000 infants.

The patients in this study were those seen in an average private pediatric and infant-feeding practice. The infants were breast and bottle fed, full term, and premature. They were examined at least once each month during the first year of life. The efficacy of this method of infant feeding is based primarily upon the infant's own tolerance for the diet. In other words, if the infant is in good health, growing normally in height and weight, has a good appetite, no digestive disturbances, sleeps well and is happy, then this particular diet schedule is advisable. The infant is the sole judge of the amount of food he requires. The number of ounces of formula at each feeding is left up to the baby so that he receives as much as he desires or needs.

Experience with this method of feeding has shown that a majority of infants can tolerate a diet schedule of three and four feedings in twenty-four hours early in infancy. If the baby receives more and richer food at a feeding, then it is not necessary to feed him so often. The rate of growth and development of the infant is the chief criterion as to the amount and number of feedings he will require. The age of the infant is of minor importance. The individual development of each infant is the deciding factor as to when to begin solid food. All food is mashed with a fork at about 6 months, whether the infant has teeth or not. Whole fresh pasteurized milk is usually advised when the infant weighs about 16 pounds or over.

In all animal life, appetite is created by hunger. An infant will eat a large total amount when the intervals between feedings are longer, in the same manner as any other individual. The baby with anorexia is rarely found among those fed on this routine.

According to the authors, the indications for putting a baby on four feedings daily are:

1. When the weight approaches 10 to 12 pounds, or if the infant is 3 to 4 months old, but weight less than 12 pounds.
2. Start solid foods earlier when the supply of breast milk is insufficient.
3. If the baby has to be awakened for his 10 P.M. *feeding.*
4. If large amounts of strong formula are taken at a feeding (no more than 8 ounces are fed at a time) solid food is then added.
5. When cereal is started in his diet (about 10 to 12 pounds).
6. If rapidly growing baby requires more food than usual.

The infant on four feedings daily is on the following approximate schedule:

6:00 A.M.	Milk
10:00 A.M.	Cereal, milk

2:00 P.M. Banana or apple, milk
6:00 P.M. Cereal, milk

The formula consists of fresh or evaporated milk with the addition of water and plain table sugar. Approximately 2 ounces of fresh milk per pound is used. The fresh milk seldom exceeds 24 ounces daily; the evaporated milk never more than 1 large can (13 ounces) and the sugar averaged 3 large tablespoons (1½ ounces) per formula. We suggest any of the whole grain cereals cooked with equal parts of milk and water in a single boiler for fifteen minutes. Precooked cereals are very satisfactory. The cereals are fed at 10 A.M. and 6 P.M. and the infant is allowed as much as he desires. Raw ripe banana is readily tolerated and practically all babies like it. The mother is instructed to feed more solid foods and less milk. When solid foods are added to the diet it is not necessary for the infant to take as much milk. A pint daily is usually a good average.

The three-meal-a-day schedule of feedings should be instituted on the following indications:

1. When the infant weighs about 17 to 18 pounds, or is 5 to 6 months of age but weighs less than 17 pounds.
2. When the appetite lags, especially for the 2 P.M. *feeding.*
3. When the infant sleeps past his 6 A.M. feeding and is gaining well.
4. Small stature babies that do not require large amounts of food.
5. When the infant is receiving a variety of solid foods, cereal, soup, vegetable, and fruit in addition to milk.

The authors state that when the infant is on three meals daily, the following schedule is used:

7:00 to 8:00 A.M. Fruit or juices, cereal, toast, bacon, milk.

12:00 Noon. Soup or vegetable (any kind, mashed) prepared the same as for the rest of the family.

Meat: ground beef, broiled liver, or chicken or fish, salmon, halibut, tuna.

Dessert: fruits, gelatine.

Milk.

3:00 P.M. Fruit juice, toast, bones (only if infant is hungry and eats other meals well).

6:00 P.M. Soup, vegetables or cottage cheese, fruit, and milk.

In conclusion the author states that a consecutive group of 100 infant feeding cases selected from about 3,000 infants over a twelve-year period was analyzed. The advantages of early addition of solid foods, fewer feedings, and longer intervals are as follows:

1. The elimination of many feeding problems, particularly anorexia.

2. Fewer dietary changes are necessary.

3. The infant is just another member of the family and is made to fit into the family routine. It is easier to give three or four feedings than five or six.

4. Solid and varied foods are given earlier.

5. The feeding schedule is more natural or physiologic, since the infant is the chief judge of the amount of food he wishes to eat.

6. There are fewer cases of rickets and nutritional diseases. Less vitamin C and D, as given to the infants in cod-liver oil and orange juice, are needed because of the natural vitamins in his food.

7. Many mothers remark about how easy it is to raise their babies. There is nothing that has to be specially prepared for the infant when he is put on three meals daily at 17 to 18 pounds, or when he is about 6 months of age. There is more rest and less work for the mother.

The rationale of this routine has been proved by the fact that these babies have all developed into happy, normal infants with practically no feeding problems.

COMMENT

The suggestions made relative to fewer feedings for infants by the author should be considered in each individual case. A set rule will not work in all cases. The idea of feeding newborn infants on four-hour feeding intervals rather than three to four hours is inconsistent. Certainly the feedings should be more than four or even five times a twenty-four hour day. It has been our rule for many years to start most of the newborn infants on three to four-hour feedings in the daytime and four at night for six weeks or two months and then change them to four-hour schedule, dropping off the two o'clock feeding after another month or so.

Large newborn infants can be put on a four-hour schedule from the beginning with but little trouble, but the smaller infants and particularly the prematures should be fed on three-hour schedule until they are well established on their milk formula or breast feeding. We concede that breast milk is the ideal food for all babies and more particularly the premature.

H. F. G.

PUBLIC HEALTH

Tuberculosis As an Economic and Social Problem.—Robert E. Plunkett, Conn. State Med. Jour. 8: 9-13, January, 1944.

For centuries, man's social and economic progress has been threatened to a considerable extent by the insidious, death-dealing tubercle bacillus. Not until the discovery of Robert Koch were control measures developed which held much hope for the many victims of tuberculosis. Even today, after sixty years of the most miraculous advances in the history of medicine, tuberculosis lingers behind to represent a major economic and public health problem. It is a major economic problem because it takes its toll to an appreciable degree from the age groups in which men and women make their greatest contributions to society and progress. It is a major public health problem because it is communicable and therefore a continuing threat to health security until all cases can be brought under adequate control.

The death rate from tuberculosis in the United States in 1941 was 44.5 per one hundred thousand population, compared to a rate of 113.1 twenty-one years ago in the 34 states in the death registration area at that time. This represents a decrease of 61 per cent. Although the disease takes a considerable toll from people in the later years of life, it is conspicuous for its attack upon youth. In 1941 it was the leading cause of death among women between the ages of 15-34 and second only to accidents among men of this age group. Approximately one-third of the deaths from tuberculosis among men occurred between the ages of 20 and 40, while among women nearly half of the deaths were in this group, where the saving of lives is most important from a socio-economic point of view.

Attention is also drawn to the fact that a considerable proportion of the cases of tuberculosis resulting in death at older ages had their beginning before age 35. This is not generally appreciated, yet it is of extreme importance from the standpoint of the prevention of illness as well as the prevention of the spread of the disease. If these cases could be diagnosed during the younger ages, many of them could be treated and the disease arrested or cured. Moreover, as a result of treatment, the tremendous reservoir of infection existing among these older people, who may not actually be ill but are nevertheess spreading the disease, could be appreciably reduced.

The number of deaths occurring from tuberculosis greatly exceeds the combined total for the acute communicable diseases: diphtheria, typhoid fever, measles, whooping cough, scarlet fever. Yet, in spite of the size of the problem, the sense of urgency in treatment, control and prevention which may be found to prevail when dealing with the acute communicable diseases is not so manifest when dealing with tuberculosis. Because the circumstances become more dramatic, the presence of acute and serious illness engenders a greater desire for prompt and immediate action and assistance. The spirit of preventive medicine must come to dominate the approach to the tuberculosis problem before this insidious disease can be dealt with effectively. Based upon recent death rates, it is estimated that there may be at least 600,000 persons in the United States who should be under medical supervision because of this disease. Moreover, they represent a serious threat to the health security of others with whom they come in contact because of the lack of precautionary measures to guard against spread of infection.

A further argument for the early diagnosis and prevention of tuberculosis is its costliness, not only to the individual and family but to the nation as well. It was recently estimated that tuberculosis among those who were in the United States armed forces in World War I has cost $960,000,000 in hospitalization, vocational training, compensation and insurance —an average cost of $10,000 for every case.

That the problem of meeting the costs of tuberculosis is far beyond that which can be met from the financial resources of all but a very few individuals or families is apparent. Tuberculosis begets poverty and poverty tuberculosis . . . An individual found to be a victim of tuberculosis should be looked upon as a public health, a community, and an economic problem. The control of the disease requires a broad attack on all fronts. Hope for lowering the incidence of this too widely prevalent disease lies in a better informed public, an alert medical profession, and a well

supported public health program. Tuberculosis is a challenge to our best efforts. It can and must be curbed.
1944.

* * * * *

For many centuries, dysentery has been a serious problem in times of stress, such as famine and war. Epidemics during World War I, particularly that during the campaign at Gallipoli, are well documented, and accounts of outbreaks during the German invasion of Poland in 1939 and in the more recent campaign in the Middle East demonstrate that this epidemic disease still stalks armies. More important, however, is the fact that troops of the United Nations are now fighting or stationed in notoriously bad endemic areas—West and North Africa, several islands in the South Pacific, India, the West Indies, and Central and South America.

The commonest types of dysentery are caused by a variety of bacteria and by an ameba, *Endamoeba histolytica,* but bacillary dysentery is by far the more important and serious. Other diseases, such as schistosomiasis, kalka-azar and malaria, can cause dysentery, but these types seldom assume epidemic proportions.

In a recent and important review of bacillary dysentery, Weil has pointed out the accumulation of a considerable amount of new information during the last fifteen years, much of which has not found its way into textbooks and into practical application in medicine and public health. This fact is regrettable because of the continued occurrence and relatively high incidence of this disease in many parts of the world and in certain areas of this country.

According to the *Public Health Reports,* the reported cases of dysentery in the United State in 1940 were as follows: amebic dysentery, 2881 cases; bacillary dysentery, 19,152 cases; and undetermined, 1484 cases. Although mortality figures are distorted because many cases are unreported, the mortality of 17.8 per cent among 79,042 reported cases of bacillary dysentery from 1933 to 1937 gives an idea of the importance of the problem in normal times in this country. The situation for Europe and Japan is somewhat similar, with comparable morbidity and mortality figures. Obviously these figures cannot be applied to tropical countries, where everyone faces the likelihood of infection.

In both types of dysentery, man is the source of organisms for the contamination of food and water. Cysts of *E. histolytica,* the infective stage of amebic dysentery, cannot withstand drying but they can remain viable in water from several days to approximately five or six months, depending on the temperature, the amount of bacterial growth and the concentration of suspended organic material. Dysentery bacilli can withstand drying for twenty to twenty-five days and can live for variable lengths of time in flies, ants, milk and water. Thus, healthy carriers of *E. histolytica,* chronic cases of amebic dysentery, and convalescent or contact carriers of dysentery bacilli are of the utmost significance to the public-health official and to the medical officer in the armed forces.

In New York City, studies of 6324 healthy persons for dysentery bacilli gave an incidence of 2 per cent, and the figure rose to 3.2 per cent when 1659 persons were examined in New Mexico, Georgia and Puerto Rico. Hurst and Knott state that not less than 1 per cent of all patients with Flexner infections become permanent carriers. The incidence and persistence of infections in institutions where the disease is endemic can be as high as 80 per cent. In troops fighting in endemic areas, the problem is a serious one and campaigns can easily be disrupted because of the occurrence of an epidemic.

Among a civilian population, modern methods of sanitation effectively control epidemics of bacillary dysentery in normal times, but poor housing conditions, too rapid growth of towns and cities, and crowding of defense workers cause the best laid systems of sanitation to break down in times of war. The present war of rapid movement minimizes the dangers in an army to some extent, but the problem of supplying food and water in tropical areas is potentially a great source of danger.

A correct laboratory diagnosis is essential for the clinician to verify the disease that confronts him. Emphasis should be placed on the facts that dysenteric infections can assume a variety of forms and that not all dysentery is caused by amebae or bacilli. Only after a thorough search of the feces for pathogenic bacteria and protozoa, and a blood examination for malarial parasites if the patient comes from an endemic area, is the clinician in position to treat the case properly and to control the spread of infection. Under field conditions, this procedure is not only impractical but often impossible for medical officers, and the only available procedure is a therapeutic test — quinine or atabrine for malaria, carbarsone or yatren for amebic dysentery and sulfonamides for bacillary dysentery. Of the last, sulfathiazole and sulfaguanidine have been given the most extensive trials; however, after sulfathiazole, fecal samples may become positive again for dysentery bacilli, and sulfaguanidine appears to be more effective against the Flexner bacilli than in Sonne infections. From the many and varied recent reports on the treatment of bacillary dysentery, it is quite apparent that the trials have been too few to properly evaluate sulfonamide drugs. The opportunity provided by the present emergency will at least provide numerous occasions to prove or disprove their efficacy.

COMMENT

Tuberculosis and dysentery are two of Mississippi's most important disease problems. That they have grown more acute as a result of wartime conditions is without question. The incidence of both diseases is destined to mount with the returning of troops. It is therefore of immediate concern to the individual, the community and the state at large that every possible measure of protection be enforced and that all cases be diagnosed at the earliest possible time and be given proper treatment. Physicians and health workers, in spite of the huge loads under which they are already laboring, have a tremendous responsibility in getting these cases located and seeing that they receive the necessary attention. Only in so doing can the spread of the diseases be checked and some assurance given that the community's social and economic progress will not be retarded as a result of their crippling consequences. The state and nation look to physicians and health workers as never before in developing health security. It is certain that in spite of our fewer number in Mississippi, we shall do our full part.

State Board of Health

Felix J. Underwood, M.D.

WHAT ABOUT THE PERIODIC HEALTH EXAMINATIONS?

A. L. Gray, M.D., M.P.H.
Director
Division of Preventable Disease Control

The human body is a most complicated organism. Proper functioning of every part of this complex system is required for the maintenance of a good state of health. Good health is desired by everyone, but it is sought for only to the extent to which the masses are educated as to what may produce poor health and what one may do to prevent and correct health hazards and defects. It is unfortunate that the human body is not equipped with a red-light signaling system which, when there develops a deviation from the normal, would flash a warning sign understandable to the individual—the layman untrained in the detection of such abnormalities. But the layman has too little knowledge of what the normal is and frequently clings to the belief that all is well until the disease process or defect has done irreparable damage to the body.

Physicians, by their training and experience, know more about the normal human body and the deviations from normal and their cause and prevention than any other group. There is no other group upon which the people can rely to point out the abnormalities and to correct them. The fact is that the medical profession is most jealous of its prerogative in the medical field and resents any encroachment by a less qualified group. This is just and right so long as the profession does its duty toward the consumers of their service, producing the best possible state of health obtainable for the individual and the masses. For certainly, the most valuable asset of any individual or group of people is health, and the health of the individual, the community, and the nation is in the hands of physicians every hour of every day of every year. Is this most valuable and impressionable asset of the patient, community, and nation being handled with the utmost care and with due regard for the rights of those who are trusting the profession with its care? Does the medical profession expect to continue as the great profession—an honor which has long set it apart from all others? If the answers are yes, the task is not always simple and easy.

It is believed that most physicians will agree that the statement — "too late with too little" — applied all too frequently to medical services being received by the average person. Because of this condition there are too many people becoming permanently handicapped or dying prematurely. The fault is not altogether with either the medical profession or with the people. The people rightly expect the medical profession to supply the leadership and a definite plan to correct the situation. If the medical profession solves the problem by concrete action, it will have done a wonderful service and fulfilled its obligation. However, if the public must evolve the solution, and a solution will be evolved, the plan will undoubtedly include at least some degree of medical socialization. This probability has already been reflected in the acts of Congress.

It is past midnight for action on the part of every physician in regard to periodic health examinations — examinations of apparently healthy people who have an intense desire to remain healthy. Therefore, physicians must assume a more sympathetic attitude toward this problem, resulting in a more thorough examination of those who desire it and explaining more completely their findings to the patient, if they expect to continue to deserve the respect of the public in regard to their services and advice.

In general, people do not mind paying a reasonable price for services rendered. But the fact is that many people who have had health examinations have expressed their dissatisfaction over paying for services they failed to get. Most people know that counting the pulse and auscultating the chest is not a physical examination and that such a procedure can be worth only little. Such people in serious search of a complete physical examination do not have the fullest measure of respect for the physician who grants a health certificate after only a casual glance at the patient. There is a reasonable and just point of meeting between the thoroughness of a physical examination given by the physician and the price the patient will pay for this service. As he well knows, it is not worth five dollars to count the pulse and listen objectivelessly to the chest. It is not worth even three dollars to sign a health certificate based on the fact that the physician does not see an obvious defect in a fully clothed patient who has just entered the office and requested such a certificate.

The American Medical Association has long recognized the need for and value of periodic health examinations. Since 1925, the Association has been acting through a committee to try to evolve satisfactory standards for such examinations and to encourage physicians to do these examinations with a degree of thoroughness that will protect the health of those seeking service and will guard the reputation of the profession. There is increasing evidence that the public is learning more rapidly about the value and desirability of regular health examinations than the average individual physician. It is a frequent occurrence for interested laymen to ask where they can secure a reasonably thorough examination, stating at the same time that they have tried their family physician but were told by him, "Why you don't need an examination." These disappointed people frequently state that they paid the price for the examination but that often the physician only felt the pulse and listened to the heart, not even disrobing the patient to observe conditions requiring his most careful scrutiny.

There is an increasing number of people who would gladly pay a reasonable fee for a reasonably thorough examination. However, the common complaint is that many are paying for it and are not receiving the service paid for. It is apparent that the demand for preventive private practice will continue to increase. The medical profession must be prepared to meet this demand by rendering a thorough service; otherwise the public will knock at doors other than those of the family physician. These may be the doors of official health agencies or group medical organizations should sufficient pressure dictate such a set-up. This should not be and it will not be if the individual physicians will give the subject the interest and consideration it deserves. It must not be, because it is apparent that the ultimate consequences would not be to the best interests of the individual or physician in contrast to the degree of efficiency and personal satisfaction which can be obtained in traditional medical practice.

All will agree that it is impossible to give a thorough examination of an adult without disrobing the patient. Certainly the examination should be based on a good personal and family history. Inspection of the skin over the whole body is important in detecting precancerous moles and lesions, irritations, sores, fungus and other infections. Examination of the mucous membranes may reveal dietary deficiencies, anemia, or infections. Nose and throat examinations frequently reveal obstructions or foci of infection which the patient knew nothing about. Blood pressure readings are important, for if a patient is hypertensive he should know it and be instructed accordingly. No examination is complete without serological examination for syphilis or asymptomatic for the greater duration of the disease and that there are many cases among the so-called upper strata of society. Observation for nervous disorders should certainly be made.

Genital examinations will reveal much, particularly in married females, and should include a vaginal examination. Upon such examination it is well to bear in mind the frequency of cervical tears, infections, precancerous lesions and cancer, as well as fibroids, ovarian cysts, and other pathological conditions. In the male, genital examination is important, particularly with reference to the prostate and urethral infection.

Rectal examinations should be made for the purpose of detecting hemorrhoids, fissures, ulcerations, and other conditions which are relatively common.

Certainly in view of the frequency of diabetes and kidney disease, the urine should be examined, at least for sugar and albumin.

While the foregoing does not include all the observations and tests which go to make up the complete periodic health examination, it undoubtedly does include much more than is now being done in many instances. The use of even these procedures will reveal enough to make the examination valuable and worth while from both the standpoint of the physician and the patient.

Finally, the patient wants to know the facts revealed by such examination—what was found and what should be done. Here the physician has a very real opportunity to take his rightful place in educating his patient. A few minutes spent in explaining facts to the patient will reap a rich harvest of better health and will win for the physician much respect and appreciation. For here it is possible to develop a broader understanding of disease processes which will make the patient less vulnerable to the persuasive appeals of certain commercial groups and quacks. At this point the cloak of professional secrecy should probably be sent to the cleaner rather than to be used further to confuse the patient about his condition and possibly to camouflage a bit of ignorance on the part of the physician.

In conclusion, it should be pointed out that there is an increasing demand on the part of the public for thorough periodic examinations of apparently healthy people. This demand must be met by the private physician in order to protect the reputation of the profession and to safeguard the health of those who are seeking it. The periodic health check-up should be just as much a part of the practitioner's practice as the treatment of pneumonia or the delivery of babies. Certainly no other group is better qualified to render this service than the family physician.

Public health workers spend much time and effort in crusading for the periodic health examination—pointing out its value in protecting against disease and in promoting physical well-being. To keep faith with the great numbers to whom this advice is given regularly, physicians must join hands to bring about a fuller realization of its benefits by giving freely of the skill and knowledge which long training in the medical sciences has endowed them. It represents both an opportunity and a privilege.

* * * *

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	Dec. 1943	Dec. 1942	Dec. 5-yr. Average
Acute poliomyelitis	2	5	2.4
Bacillary dysentery	310	349	270.0
Dengue	0	0	1.0
Diphtheria	18	40	41.6
Influenza	37348	6465	15257.2
Measles	318	332	423.0
Meningococcus meningitis	21	8	9.4
Other forms meningitis	8	0	4.2
Pellagra	155	187	181.6
Pneumonia	2899	1882	2267.3
Pulmonary tuberculosis	128	122	108.4
Scarlet fever	56	72	74.6
Smallpox	0	3	.8

Tularemia	5	3	2.0
Typhoid fever	4	7	4.6
Typhus fever	11	7	6.6
Undulant fever	4	2	2.0
Whooping cough	687	727	690.0

Woman's Auxiliary

TO THE MISSISSIPPI STATE MEDICAL ASS'N.

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President-Elect	Mrs. L. J. Clark	Vicksburg
First Vice-President	Mrs. V. B. Philpot	Houston
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UNITED STATES CADET NURSE

Mississippi girls will now have an opportunity to become students of the U. S. Cadet Nurse Corps as two Mississippi hospitals become affiliated with the plan. The Mississippi Baptist Hospital, Jackson, and the Vicksburg Hospital, Vicksburg, will have training units, classes starting June 15.

The Woman's Auxiliary to the Mississippi State Medical Association has been asked to assist with the recruitment of students and a program has been worked out whereby each accredited high school and junior college will receive information pertaining to the qualifications of girls interested in joining.

Applicants must be between the ages of 17 and 35 years, single and must have a high school certificate of graduation from an accredited high school, with subjects that will lead to a bachelor of science degree. They must be interviewed before June 15. A personal interview is essential and the applicant must furnish transportation at all times.

The training period will be 36 months. While in training the cadet will receive a monthly stipend. The first nine months, $15.00, the next twenty-one months, $20.00, and for the six month senior-cadet period $30.00. The following articles are furnished: books, laboratory and library fees, attractive work uniforms, and uniforms for off-duty hours, as well as her board and room. When accepted, the cadet must furnish the following: two spreads, four sheets, four pillow cases, two two quilts or two blankets, one pillow, six bath towels, six bath cloths, two laundry bags, duty shoes, cotton slips and other personal effects.

The trainees are cared for under the Bolton Act, a bill introduced by a woman. At the completion of this course of study, they may choose their own field of duty, at home or abroad.

"DOCTORS' DAY" OBSERVED

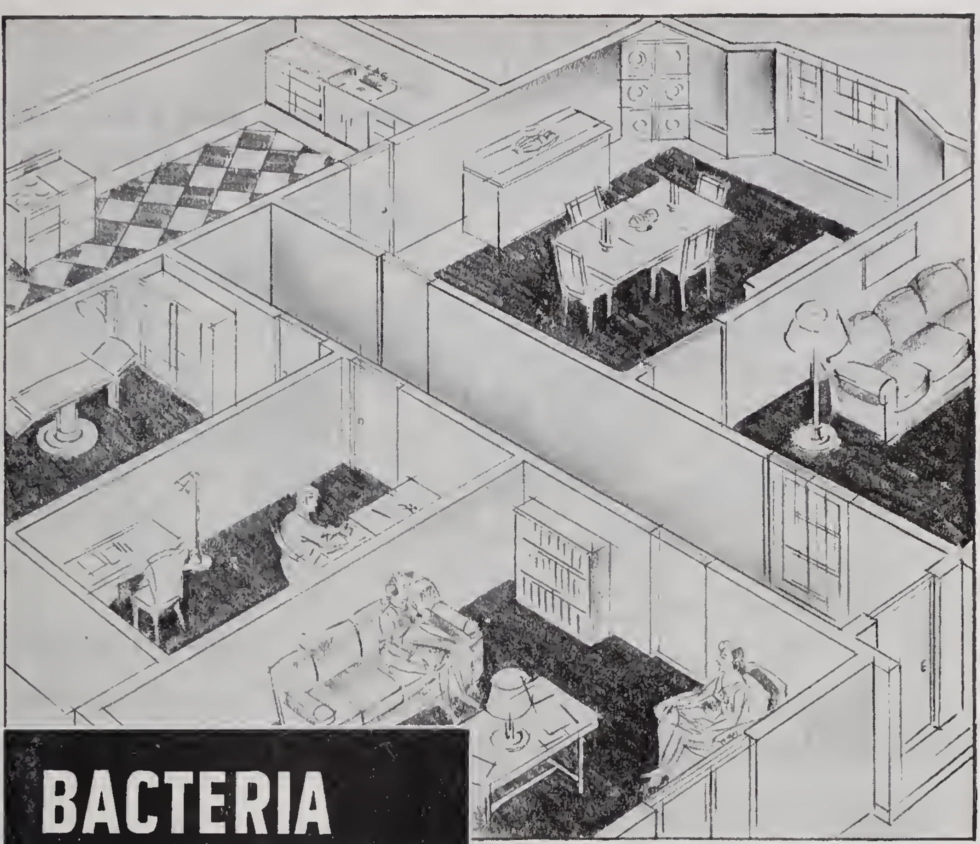
Open house in observance of "Doctors' Day" was held from 4 to 6 P.M. February 13 when members of the auxiliary to the South Mississippi Medical Society entertained at the home of Dr. and Mrs. J. P. Culpepper, Jr., 900 Corinner Street. Hostesses of the annual celebration were Mrs. B. D. Blackwelder, Mrs. E. W. Green, Mrs. Eugene Busby, Mrs. Nollie Felts, Mrs. Culpepper, and Mrs. Seth H. Barron.

The Culpepper home was decorated with jonquils, narcissi and red and pink carnations. The centerpiece of deep pink japonicas was arranged in the form of an immense heart, carrying out the St. Valentine motif.

Mrs. R. E. Schwartz, president of the auxiliary, presided at the silver service. Heart-shaped sandwiches, individual cakes, nuts, pickles and olives were served by Mrs. Busby, Mrs. Blackwelder, Mrs. Barron, Mrs. Green, and Mrs. Felts.

During the visit of each guest J. P. Culpepper III gave folders of matches with "Doctors Day" personalizing the favor.

About fifty guests called.



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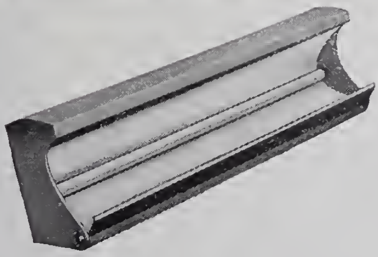

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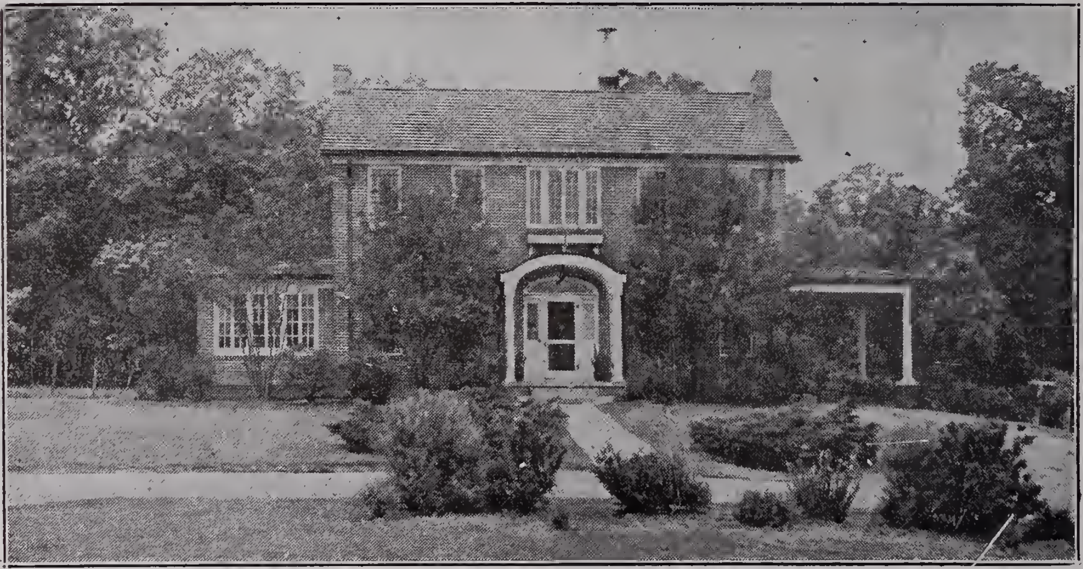

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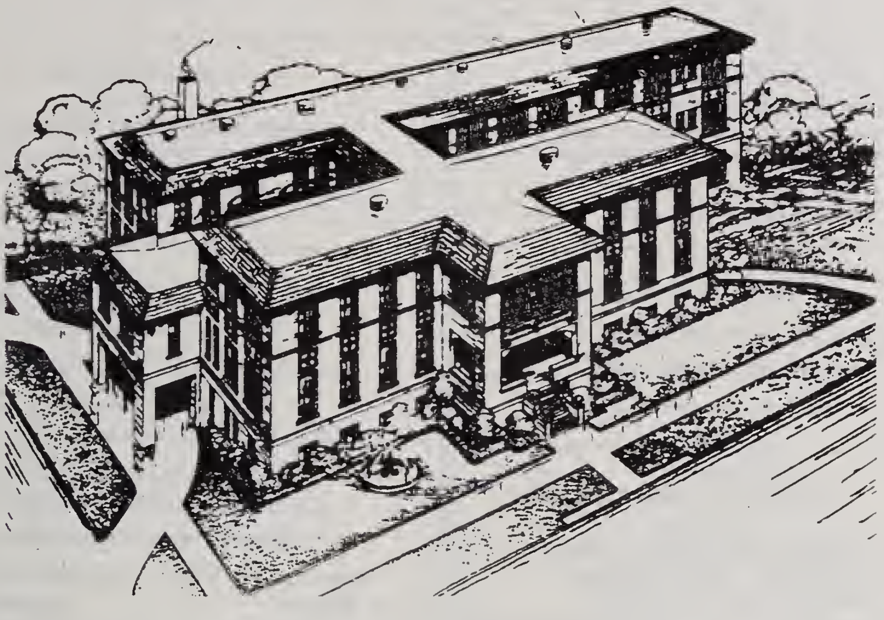

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The Mississippi Doctor

Vol. 21 BOONEVILLE, MISSISSIPPI, MARCH, 1944 No. 10

DAFFODILS

I WANDERED LONELY AS A CLOUD
  THAT FLOATS ON HIGH O'ER VALES AND HILLS,
WHEN ALL AT ONCE I SAW A CROWD,
A HOST, OF GOLDEN DAFFODILS;
BESIDE THE LAKE, BENEATH THE TREES,
FLUTTERING AND DANCING IN THE BREEZE.

WILLIAM WORDSWORTH.

NUTRITIONAL ANEMIA IN INFANTS

REASONS FOR EARLY FEEDING OF PABLUM (OR PABENA)

1. The infant's initial store of iron is rapidly depleted during the first months of life. (Mackay,[1] Elvehjem[2]). About 30% of the iron freed from the hemoglobin during the first two months is lost, and while hemoglobin destruction takes place, all infants are in negative iron balance. (Jeans,[3] and Usher, et al.[4]).

2. During the early months of life the infant obtains very little iron from milk — 1.44 mg. per day from the average bottle formula of 20 ounces or possibly 1.7 mg. per day from 28 ounces of breast milk. (Holt,[5] Jeans[3]). The incidence of nutritional anemia has been found to be high among infants confined largely to a diet of cow's milk. (Davidson, et al.[6] Usher, et al.,[4] Mackay[1]).

For these reasons and also because of the low hemoglobin values so frequent among pregnant and nursing mothers (Strauss,[7] and Gottlieb and Strean[8]), the pediatric trend is constantly toward the add tion of iron-containing foods at an early age, both to normal infants and those with pylorospasm (Neff,[9] Blatt,[10] Brennemann,[11] Monypenny[12]).

THE CHOICE OF THE IRON-CONTAINING FOOD

1. Many foods high in iron actually add very little to the diet because much of the mineral is lost in cooking or because the amount fed is necessarily small or because the food has a high percentage of water. Strained spinach, for instance, contains only 1 to 1.4 mg. of iron per 100 Gm. (Bridges[13]).

2. To be effective, food iron should be soluble. Some foods fairly high in total iron are low in soluble iron. Thus egg yolk and liver have less soluble iron than does farina, which is very low in total iron. (Summerfeldt[14]). Oxalate-containing leafy vegetables are low in soluble iron and appear not to be well utilized as a source of iron by infants. (Kohler, et al.,[15] and Stearns[16]).

3. **Pablum (and Pabena) are high both in total iron (30 mg. per 100 Gm.) and soluble iron (7.8 mg. per 100 Gm.) and can be fed in significant amounts at an early age, without digestive upsets. (Blatt,[10] Monypenny[12]). Clinical studies of sick and well babies have shown Pablum to be of value in raising hemoglobin values (Crimm, et al.,[17] Summerfeldt and Ross[18]), even when egg yolk and spinach were not effective (Stearns[16]).**

Pablum, a palatable mixed cereal food, vitamin and mineral enriched, and cooked thoroughly and dried, consists of wheatmeal (farina), oatmeal, wheat embryo, cornmeal, powdered beef bone, sodium chloride, alfalfa leaf, brewers' yeast, and reduced iron. (The oatmeal form of Pablum is called Pabena.)

[1-18] Bibliography on request.

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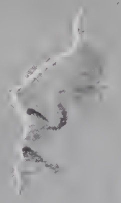

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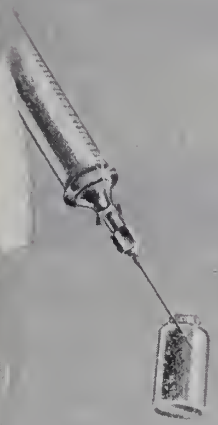

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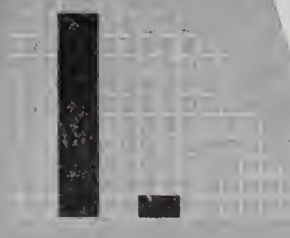

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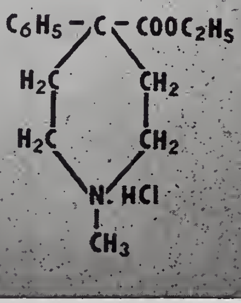

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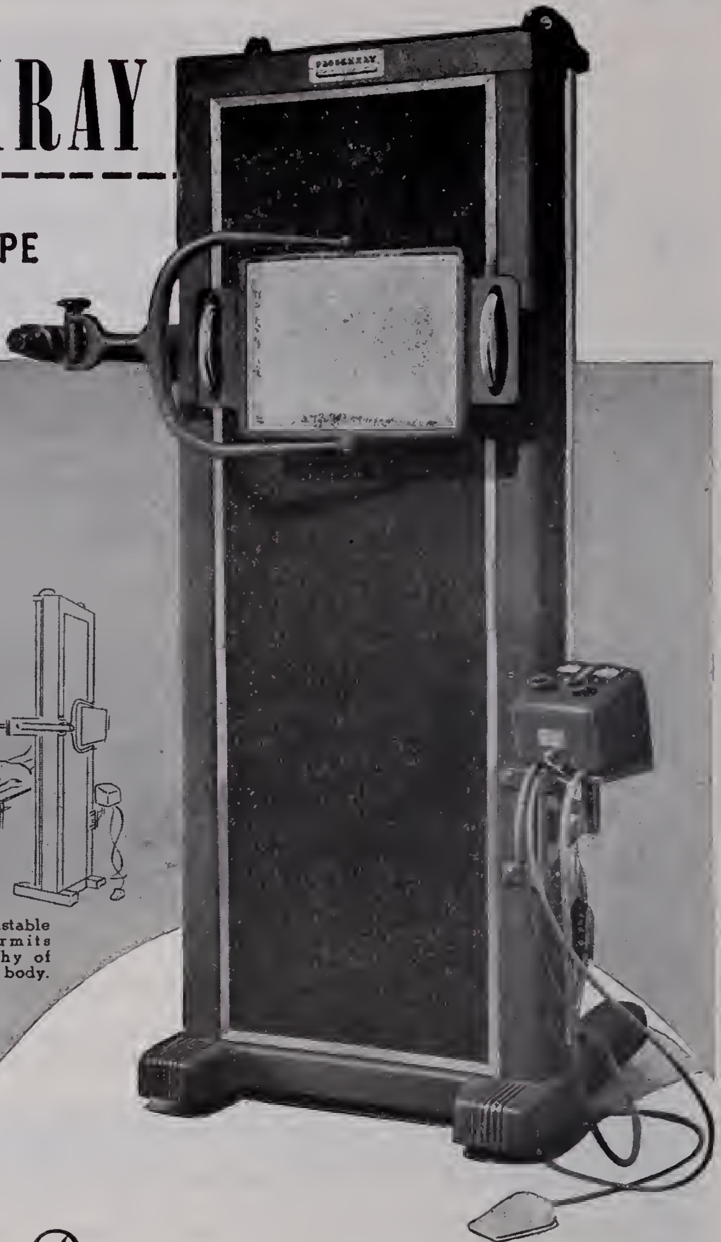

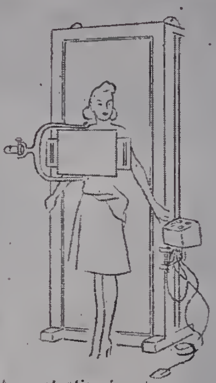

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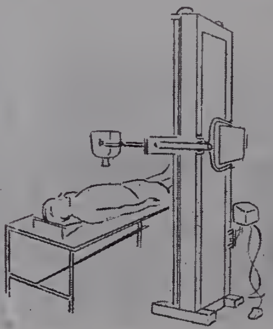

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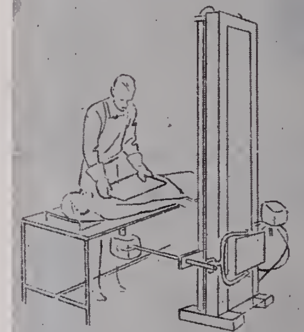

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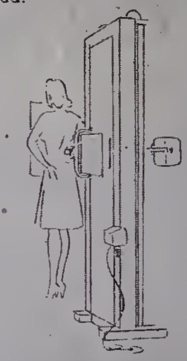

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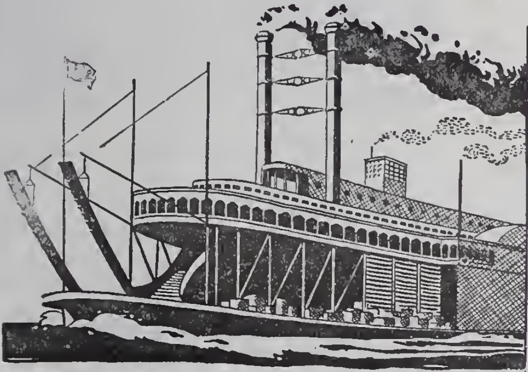

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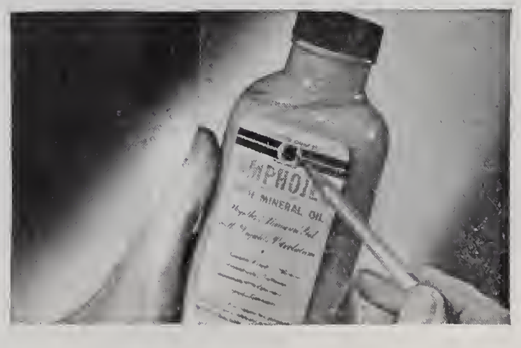

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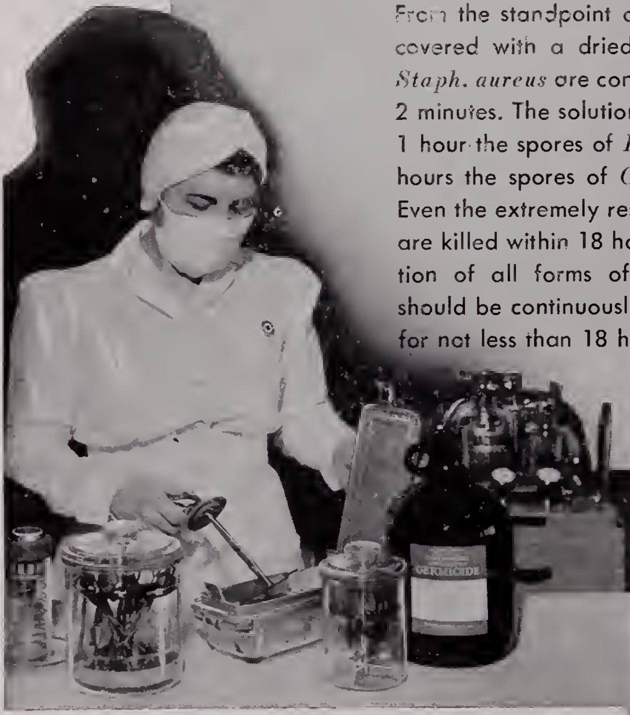

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e suggestion which provides the neces-
ety valve which such an arrangement
would give. It would be tragic if a lot
ll business concerns were wrecked and
orkers thrown into idleness because of
nability to cut through the red tape
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ility for preparing their claims ac-
y and speedily and presenting them
er form. Some progress has been
toward getting a recognition of the
at industry must play in this respect,
rrently more and more experience of
ort is now being gained. The con-
g services of the Government, I know,
very helpful attitude toward this sit-
, and the local office of W. P. B. has
shed a regional advisory service for war
faced with problems resulting from
t termination. That is a very helpful
ent.

ation to make possible the prompt
nt of terminated war contracts is
now. It will be unsafe to wait until
s a deluge of contract terminations to
hrough legislation on short notice.
roblem is too complicated to be dealt
ffectively in that way.

ATERIALS FOR CIVILIAN PRODUCTION

ddition to making provision for the
ent of terminated war contracts, there
the task of facilitating the flow of
als for civilian production as soon as
aterials can be spared from war pur-
I hope that we shall not have unem-
ent here in Massachusetts becau-
d materials, which are physically in ex-
e in the United States, are unavailable
by manufacturers as a result of leg-
or administrative restrictions. The
legislation vesting the priority power
President, which power of the Presi-
delegated to the Chairman of the War
on Board, is probably adequate to
the flow of materials, but it may be
ry for the Congress to make sure that
ministration of the priority power by
ar Production Board is directed effec-
toward the speedy and smooth resump-
f civilian production. The War Pro-
n Board should be expected to elim-
s limitation orders, its conservation
and its allocation systems just as
as the needs of the war program per-

use of their effects on plans for re-
yment, I foresee that these problems
tling canceled contracts and securing
pplies of raw materials for civilian pro-
n will presently be matters of wide-
concern here in Massachusetts.
ummarize, my specific recommenda-
re that legislation should be enacted
r the following points:

EMENT OF TERMINATED WAR CONTRACTS

terminated contracts should be set-
egotiation by the contracting agen-
he Government, and the negotiated
nt should be final in the absence
or misrepresentation.

mpt partial payments amounting to
arge percentage of the claim should
d to each contractor upon submittal
fied statement of the claim, subject,
, to a penalty for perjury.

al settlement committees should be
red to authorize partial payments
delay of over 30 days occurs on the
the Government agency.

4. Contracting agencies should be required to give prompt clearance of claims on work in process. There should be clear-cut procedures for authorizing the removal of Government-owned inventories and machines, with storage at Government expense, in order that civilian production may be started.

5. The dilemma of the subcontractors must be resolved. At the present time the Government exercises the right of approving all payments in settlement of subcontracts but does not assume any responsibility to the subcontractor, with the result that the subcontractor in many cases cannot secure action by either the prime contractor or the contracting agency. I suggest that the local settlement committees proposed above should be empowered to approve settlement of subcontracts if a delay occurs in approval by the contracting agency.

B. DECONTROL OF MATERIALS

1. As soon as war conditions permit, the rules for the release of scarce raw materials should be revised, with a view to facilitating the rapid resumption of civilian production.

A Magnificent Job

EXTENSION OF REMARKS
OF
HON. LOUIS LUDLOW
OF INDIANA
IN THE HOUSE OF REPRESENTATIVES
Tuesday, January 11, 1944

Mr. LUDLOW. Mr. Speaker, Indianapolis and Indiana are very proud of the great pharmaceutical house of Eli Lilly & Co., which has processed its millionth blood donation without a cent of profit. This record is in keeping with the fine, generous spirit which this firm always has manifested in the service of our country and which long ago brought to it the recognition of an Army-Navy E award. Commenting on the company's contribution to the blood campaign, which means so much in saving the lives of our precious boys, the Indianapolis News says editorially:

LILLY'S CONTRIBUTION

In the midst of charges that some concerns are making an unholy profit from war contracts it is heartening to learn that the Indianapolis laboratories of Eli Lilly & Co. have processed 1,000,000 blood donations entirely on a nonprofit basis.

In addition to performing this service at cost, the expense involved has been decreased constantly through the introduction of more efficient methods.

There certainly could have been nothing unethical if the Indianapolis pharmaceutical house had sought a minimum profit for the work it has been doing.

Donations of blood at Atlanta, Chicago, St. Louis, Detroit, Cincinnati, Louisville, Columbus and Indianapolis have been converted into live-saving plasma at the Lilly plant, involving the installation of new equipment and the employment of much additional skilled personnel.

The patriotic Americans who donated this blood, however, got nothing for their contributions and the Lilly Co. determined that its connection wiht the effort to strengthen the wounded on every fighting front should be entirely shorn of private gain. From beginning to end, it has been and is—a magnificent job.

The Gates Must Not Be Closed

EXTENSION OF REMARKS
OF
HON. SAMUEL DICKSTEIN
OF NEW YORK
IN THE HOUSE OF REPRESENTAT
Tuesday, January 11, 1944

Mr. DICKSTEIN. Mr. Speaker,
leave to extend my remarks in the
ORD, I include the following editorial
the Daily Mirror of January 4, 194

THE GATES MUST NOT BE CLOSE

When Congress reconvenes on Janu
it should take up the Gillette-Taft-Bal
Rogers resolution.

This resolution calls for the format
a Presidential commission to create m
ery, in conjunction with the Unite
tions, to rescue the millions of Jew
are now being systematically exterm
by the Nazis and their Quislings.

When the Presidential commission g
work, one of the first things it shoul
to seek the abrogation of the Cham
"White Paper" of May 1939.

At present, Palestine is being admin
by Great Britain in conformity with t
icy embodied in the "White Paper,"
tue of which Jewish immigration int
tine is now limited and is to be pr
stopped after March 31, 1944. The
to be reduced to a permanent min
33 percent in the country and the
land to Jews is to be practically pro

A DIRECT REPUDIATION

This is a direct repudiation on En
part of the League of Nations Manda
the Balfour Declaration incorporated
mandate of 1917.

According to this declaration, Palest
to become a national Jewish home un
protectorate of England.

In 1939, after the Jews had created
ern civilization in what was practic
Arabian desert, England turned h
on her solemn promise of 1917.

This perfidity of Britain toward t
was denounced by no one more vig
than by Winston Churchill in Parlian
the debate on the "White Paper"
when he said:

MR. CHURCHILL'S REGRET

"As one intimately and responsib
cerned in the earlier stages of our P
policy, I could not stand by and see
engagements into which Britain has
before the world set aside for reason
ministrative convenience or for the
quiet life. I should feel personally
rassed in the most acute manner
myself by silence or inaction to wha
regard as an act of repudiation.

"I regret very much that the pledg
Balfour Declaration, endorsed as it h
by successive governments, and the
tions under which we obtained the m
have both been violated by the Gover
proposal.

"I select one point upon which
plainly a breach and repudiation of
four Declaration—the provision tha
immigration can be stopped in 5 ye
by the decision of an Arab majority.
a plain breach of a solemn obligation

As the Palestine Mandate was ord
the League of Nations, it cannot b
gated even by Great Britain herself
the consent of the League.

A SOLEMN OBLIGATION

But the League did not give its con
the 1939 abrogation.

Fractures of the Pelvis*

JOHN B. HOWELL, M.D.†
Canton, Miss.

FRACTURES of the pelvis are by no means rare, it is stated that they constitute 3% of all skeletal fractures.

With the increase in heavy industrial machinery and rapid transportation with its attendant accidents, more and more general surgeons and small hospitals are called upon to handle these injuries which formerly were only common to the surgeons of the great industrial centers. The high mortality rate running from 10 to 30% makes these injuries a major problem.

We wish, briefly, to review the anatomy and the clinical importance of the pelvis, situated as it is midway of the body, a clearing house for the motion of the lower extremities and the trunk.

It supports the body when sitting and standing; the muscles of locomotion of the lower extremities are attached to the outer and inner surface and it supports the spine at the articulation with the last lumbar vertebra. To its surface are attached the muscles of the trunk, forming semi rigid ring furnishing equilibrium and stability to the body.

Within its borders are housed a portion of the urinary and intestinal system and the female genitalia; through its foramina pass the great nerve trunks and blood vessels, while beneath its arches, pass all mankind, with few exceptions, the most notable, Julius Caesar.

The pelvis is composed of two innominate bones which articulate anteriorly at the symphysis pubis and posteriorly with the sacrum at the sacro-ilium joints. Both anteriorly and posteriorly these are bound together by strong ligaments. The innominate bones of each side are composed of the ilium which forms the posterior and lateral wall of the pelvis. The anterior portion of the ring and the ischium, the posterior portion and all unite to form the acetabulum. The bodies of the pubis articulate at the symphysis, its horizontal ramus articulates with the ilium and its descending ramus with the ischium. The body of the ischium unites with the ilium and its ascending ramus with the pubis and the tuberosity supports the body when sitting. The sacrum forms a posterior wedge and articulates with the coccyx below and the lumbar spine above.

Sir Henry Morris has called attention to the stability of the pelvis which with its stout bones and muscular attachments is able to sustain heavy shocks and strains. As a weight carrier the pelvic girdle may be considered as being composed of two main and two tie arches.

The femorosacral supports the body while standing and the ischiosacral when sitting, thus the sacrum becomes the keystone of both. These are tied by two lesser arches, the femorosacral by the bodies of the pubis bone and its horizontal rami, while the ischiosacral by the arch through the rami of the pubis and ischium.

Mechanically, the lesser arches are broken first, the main arch gives away only under great violence, hence the greater number of fractures in the anterior portion of the pelvic ring; that is, at the symphysis or midway between the symphysis and the acetabulum.

The weakness in the posterior ring is slightly external to the sacroiliac joints. The operating force producing a fracture of the pelvis is a fall on the feet from a great height or a fall in a sitting position or a force of direct violence either anterior-posteriorly or laterally.

Formerly, the greater number of fractures occurred in men, but in a series of sixty cases reported by Eliason, 44% were women and Conwell states that an increasing number are in women and that 75% of the pelvic fractures in women are from auto accidents.

The physical examination of the patient must be done with the utmost care and thoroughness, first determining the degree of shock. Much may be learned from inspection.

A depressed anterior superior and asymmetry of the pelvis may mean a fracture of

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*Delivered before the Section on Surgery at the annual meeting of the Mississippi State Medical Association, May 1943.

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†Deceased.

the alae of the ileum and the lack of prominence of the trochanter, a fractured dislocation of the acetabulum.

By palpating the pelvic ring, tenderness and swelling in the region of the fracture will be found. By pressing outward with the palms of the hands on the ilium, then compressing the spine of the ilium, pain will be elicited and sometimes crepitation at the site of the fracture. With a break in the continuity of the ring, marked mobility is found. Pressure upward or moving of the legs give pain at site of fracture.

Pain and inability to walk are prominent symptoms but with the fracture of only one bone many will be able to walk, though not without pain over the fracture site. Too much manipulation must not be done for fear of causing more injury, for the final arbiter for determining the extent of the fracture and the anatomical details is the x-ray and is, at least, the safer procedure.

The portable or bedside unit is of great value as it minimizes the handling of the patient.

Rectal and vaginal examination will often give much information as the ischium and pubis may be palpated and sharp spicules of bone be located and prevented from doing more damage.

In the treatment of fractures of the pelvis the evaluation of the complications and associated injuries are most important, for they are for the most part acute surgical emergencies and are the cause of death during the first few hours or days following the injury.

The seriousness of pelvic fractures are evidenced by their high mortality; Wiel in his series of 225 cases found it to be 13.7% and Nolan and Conwell 16%. The complications in the order of their seriousness are shock, injury to the bladder or urethra, ileus, injury to the rectum, the great nerve trunks and the larger blood vessels.

As these fractures are the result of great trauma, shock is the most prominent and dangerous complication varying from slight primary to the most severe. Many die from shock before the diagnosis of the bony involvement is determined. Therefore it should be recognized and treated promptly and thoroughly.

Next in importance are those injuries to the urinary system. The bladder may be ruptured or punctured by sharp fragments from the rami or by separation of the symphysis, either extra-peritoneally or intra-peritoneally. In the latter case the symptoms of the peritoneal irritations are present, i. e., as pain, rigidity, nausea, vomiting and leukocytosis. Extra-peritoneal separation shows extravasation of urine with swelling and tenderness in the space of Retzious or along the perineum. In all cases the catheter should be passed to determine the presence or absence of bloody urine in the bladder. Blood is pathognomonic of injury and the extent of the injury may be determined by the x-ray after injection of opaque substance or air in the bladder.

However, we are justified by clinical evidence to institute drainage by catheter, suprapubic cystotomy, or exploratory laparotomy, for intraperitoneal rupture with repair of damage to the viscus and drainage of the abdomen. On inspection, blood from the meatus indicates urethral damage and obstruction to the passage of the catheter rupture.

Suprapubic cystotomy with immediate repair of the urethra should be done and an indwelling catheter placed, instituting adequate drainage for extravasated urine.

Ileus should be ever kept in mind as a serious and distressing complication and early treatment such as enemas, prostigmin and use of the Wangansteen.

Injury to the nerve trunks are not uncommon and occur in 2% of the series reported by G. G. Davis. Most of these injuries occur in the lumbar sacral chord as it passes over the brim of the pelvis, manifesting itself most often in injury of the perineal branch with its attendant foot drop which may be only transitory or become permanent.

Injury to the rectum may occur, due to its intimate relation to the bony pelvis on the left, manifested by blood and, later, signs of infection.

Serious hemorrhage from trauma of the large blood vessels and thrombophlebitis with swelling of the extremities are rare complications.

The classification of fractures of the pelvis as outlined by Key seem to be the most practical for the discussion of treatment, i. e.

I.Fractures of the individual bones composing the pelvis, without break in continuity of the pelvic girdle.

1. Fracture of the wing of the ilium.
2. Fracture of a single ramus of the pubis or ischium.

3. Fractures of the tuberosity of the ischium.
4. Fracture of the sacrum.

II.—Single breaks in the pelvic ring.

1. Fractures through both rami.
2. Separation at, or fracture near the symphysis.
3. Separation at or fracture near the sacroiliac joint.

III.—Double breaks in the pelvic ring.

1. Double vertical fractures of Malgaigne.
2. Severe multiple fractures of the pelvis.

IV.—Fractures of the acetabulum.

It is estimated that from 65% to 70% of the fractures of the pelvis are multiple. Before treatment of fracture of the pelvis is begun, adequate x-rays should be taken to determine the position of the fragments and then select one of the simplest methods to get the best functional results.

All cases of fractures of the pelvis should be on a firm mattress and fracture boards should be placed between the mattress and bed or a Bradford frame with individual straps and the frame elevated on 8x10 inch blocks at the head and foot to facilitate the use of the bed pan.

In the first group, break of the individual bone, a swathe around the body with wide "ace" bandage or stockinet reinforced by wide adhesive with the knees flexed on pillows is usually sufficient for the fracture of the alae of the ilium. The muscles attached to the ilium help hold the fragments in place.

A trapeze may be placed for the convenience of the patient in changing position or using the bed pan.

Three to four weeks in bed, then up on crutches with a canvas belt gradually discarding the support, gives expectation of normal function in ten to twelve weeks.

Fractures through a single ramus if not displaced may be treated as outlined above for fractures of the wing of the ilium.

Fractures of the tuberosity of the ischium need little treatment except as outlined for the fracture of the ilium. Weight bearing in the sitting position is painful for some time in fracture of the ischium.

Furey calls attention in his series to the frequency of the fracture of the sacrum as found by x-ray, 65% of pelvic fractures showing some form of fracture of the sacrum; however, the fracture is usually transverse with little or no displacement.

Treatment is from four to six weeks in a fracture bed followed by a pelvic girdle with gradual weight bearing and with no expected disability.

Single Breaks in the Continuity of the Pelvic Ring

Fractures through both rami are most common as the tie arches are the weakest part of the pelvic girdle. A lateral force tends to push the fragments inward and causes them to overlap, while the force operating anterior-posteriorly produces a backward displacement with a tendency to widening of the pelvis and it is in these fractures that great danger to the bladder or urethra exists from sharp splinters of bone.

Should there be no displacement of the fragments nor injury to the pelvic viscera, the patient may be treated on the fracture bed with pelvic swathe and flexion of the knees on pillows for four to six weeks, then allowed to be up on crutches, the hips supported with a pelvic girdle, expecting in ten to twelve weeks to return to work.

When the fragments are displaced — The fracture bed, Bradford frame or overhead pelvic suspension with hammock and spreader as described by Nolan and Conwell, may be used, the latter with great comfort to the patient and ease in nursing. Then, traction by adhesive to one or both legs of from, usually, six to eight pounds, the legs are abducted fifteen to twenty degrees to correct the displacement and spasm of the adductors.

After six to eight weeks the patient may be allowed to be up on crutches with a well fitted pelvic girdle and weight bearing in from ten to twelve weeks.

(1) When it is not advisable or impossible to keep these patients in a hospital, after two to three weeks of traction on the frame, a double spica plaster may be applied and kept on six to eight weeks.

(2) A single fracture or separation of the symphysis or sacroiliac joint, while rare, may occur and where displacement exists, under anaesthetic, by traction and manipulation, an attempt made to replace them and the above treatment carried out.

The double vertical fracture of the pelvis or so-called Malgaigne fractures and multiple fractures are not rare and are the result of a force so severe as to break both the main and tie arches at the same time. These are, particularly, liable to occur in lateral crushing injuries or a fall from a great height on the feet or buttox and there is a displacement upward of the fragments on one or both sides.

These extensive fractures are best treated as described by Nolan and Conwell with traction on both legs, the patient being placed in the overhead pelvic suspension frame with hammock and spreader. If there is separation of the symphysis, the spreader may be discarded or made smaller so as to exert lateral pressure. The traction must be greater than in single fractures of the ring, using as much as fifteen to twenty-five pounds, gradually reducing the amount of weight as the deformity is corrected and it may be necessary to vary the traction on one or the other leg as indicated.

It is necessary to check these fractures frequently with a portable x-ray unit. If the deformity is not corrected satisfactorily by traction, manipulation under anesthetic may be done. Eight to twelve weeks in bed with gradual return to weight bearing in eight to ten months is the rule.

Fractures of the acetabulum are usually caused by a severe lateral force exerted on the great trochanter of the femur which drives the femoral head inward, causing a fracture of the acetabulum or a dislocation of the femoral head, which is sometimes forced into the pelvic cavity or its posterior-superior border fractured by an upward force.

These fractures which are usually comminuted may be treated with the Roger Anderson well leg splint or with the pelvic sling with traction on the injured leg with abduction at a thirty-degree angle.

When the head is displaced into the pelvis, Cubbins advised lateral skeletal traction with a pin through the trochanter and downward traction by Bucks' extension or a pin. These fractures may be complicated by injury to the nerves.

Summary

1. Fractures of the pelvis are major surgical problems.
2. Complications are primary surgical emergencies and bony involvement secondary.
3. Do not overtreat fracture of the pelvis.
4. All patients should be hospitalized and frequent checking by x-ray done. Get as good alignment as possible for functional results.

Maxillary Sinusitis*

WILLIS F. COTTEN
McComb, Miss.

Etiology and Treatment

The maxillary sinus, present at birth, arises from a normally misplaced ethmoid cell. It develops as an outgrowth of the nasal mucous membrane into the bones surrounding the nasal cavity by a process of pneumatization. The bony structure is absorbed and the mucosa expands to form the maxillary sinus which is fully developed at fifteen to eighteen years.

The nasal mucous membrane is lined with stratified columnar ciliated epithelium, which is continuous through the natural ostium, as well as the lining of the sinus cavity. The movement of the cilia in the sinus is toward the ostium, while the movement of the cilia in the nose is posteriorly toward the nasopharynx. In this mucous membrane are placed numerous mixed mucous glands. These glands secrete a mucoid secretion which is kept moving by the cilia. This secretion, which has some destructive action toward bacteria, also catches all bacteria and other foreign material and keeps them moving all the time. This prevents them from staying in one place long enough to do any great damage to the mucous membrane. This mucous coat also serves to keep the nose moist at all times and to supply the needed moisture to the air before it enters the lung.

Etiology

More recently, investigators are paying more attention to allergen as a causative factor in sinusitis. Hansel[1] states that in cases of allergy of the nose and paranasal sinuses, the pathologic conditions which are present at the onset of an acute infection play an important part in the development of acute and chronic empyema. Morrison[2] states that every chronic allergic nasal cavity sooner or later suffers acute rhinitis and sinusitis.

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*Delivered before the Ear, Eye, Nose and Throat Section of the Mississippi State Medical Association, May 1943, Jackson, Miss.

There are some extrinsic factors which evidently play some part in causing sinusitis, namely: heat, cold, humidity, dust, smoke, and excessively dry rooms during the winter months. Debilitating diseases, lack of exercise, mental strain, improper diet and poor hygienic conditions must also play some part in certain individuals.

Enlarged turbinates, deviated septa, hayfever and swimming may be responsible for sinusitis in some of our patients.

Vitamins A, B_1, B_2, C, and D seem to play some part in keeping the respiratory tract in a healthy state. Their absence from a diet would seem to predispose a patient to sinusitis. Though the work with these vitamins needs further investigation, it seems fairly well agreed that vitamin A is important to the general well being of the columnar and cuboidal ciliated ephithelium of the respiratory tract and that it helps in defense mechanism against virulent bacteria. Vitamin B_1 maintains the normal structure of the peripheral nerves and aids further by stimulating appetite. It also seems to aid clinically the nervous patient and lessens very materially the amount of sedative necessary. Vitamin C seems to furnish the substance necessary for the proper growth and development of the intercellular cement substance of connective tissue, helps to keep in proper shape the capillary walls and is very necessary in the development of bone. Large amounts of vitamin C are used in acute infections and seem to neutralize some toxins produced by bacteria.

Acute rhinitis is probably one of the most common causes of maxillary sinusitis. In this class, we have people who will not be treated and who insist that their job is so important that they cannot lose one or two days from work for rest. In this group might also be added patients who suffer an attack of influenza with all the nasal congestion.

Other diseased sinuses, especially the anterior ethmoids and frontals which drain their pus into the middle fossa, are often responsible for an infected maxillary sinus. Nasal polypi are also thought to be responsible for some of these infections.

Dead teeth, abscessed teeth, puncturing the sinus when removing teeth, and traumatic fractures from any source may be responsible for an infection in an antrum. Shea[3] states that the maxillary sinus may be infected directly by either acute or chronic infections of the teeth immediately adjacent to the sinus or indirectly because of a lowered resistance as the result of dental infection.

Campbell[4] says the paranasal sinuses may in certain rather common situations be affected by changes in barometric pressure. In keeping with the nomenclature of other conditions which are the result of alertation in barometric pressure such as aero-otitis media and aeroembolism, this condition could be called aerosinusitis when seen in men in the present air service.

With our present knowledge of the cilia and the protective mucoid coat, any treatment instituted or any drug used should be done in such a way as to try to preserve the normal ciliary action along with the protective coat. Any treatment used which will stop or destroy ciliary action will give the invading organism more of an opportunity to attack otherwise healthy tissue and prolong the sinus disease. One should also remember that certain drugs produce, when used in the nose, a very marked alkalinity; while others produce an acidity. Neither of these conditions is to be desired, so one should select drugs, when prescribing vasoconstrictors, which will produce no change in the nasal pH.

Weille[5] states that in the treatment of acute sinusitis, rest and rest in bed in a warm room with a relative humidity between thirty and forty-five per cent is indicated; that steam inhalations have aided and that sulfadiazine given by mouth has proved of value in his cases.

Shea[6] states that the acute sinus patient can be helped by local treatment, chemotherapy, diet, climate, immunization and surgery.

When one begins any form of treatment in a case of maxillary sinusitis, he is compelled to think of getting the nose open so that there will be a free flow of air through the nose with room for drainage. This can be done in the majority of these cases by ephedrine sulphate one to two per cent in normal salt solution used as a spray, repeating as often as is necessary to keep the nose open. Drops are also used and in certain cases, to a good advantage. Suction proves helpful in some cases and certainly removes the pus from the nares of children who are unable to blow out the discharge.

Solis and Cohen[7] believe, after careful study of patients with acute and chronic sinusitis, that they can be materially helped by the use of vaccine therapy; that the proper vaccine, given in the right doses, will cause the patient's body to manufacture sufficient antibodies to fight the organism and its toxic products.

Todd[8] states that among clinical conditions which have been treated successfully with vaccines are the infections of the nasal accessory sinuses.

Marks[9] reports that sulfathiazole jelly 20% applied in the antrum was effective in the treatment of seventy per cent of a series of patients with chronic maxillary sinusitis. He suggests that this drug should be tried locally before surgery is advised.

Hunnicut[10] states that a five per cent solution of sulfathiazole applied locally in the nose of mice produces a purulent exudate and an inflammatory reaction during the first three or four days of its use. He also states that when used in the mouse, there are no permanent ill effects following the local use of this drug.

Scal[11] reported twelve cases in which sulfadiazine was given by mouth with satisfactory results in ten of his twelve cases of chronic sinusitis.

Proetz[12] states that in early acute sinusitis, irrigation should not be done as it may spread the infection. He suggests, instead, that the displacement treatment be used at this stage and will be most effective.

Irrigations, either through the normal maxillary ostium or one made beneath the inferior turbinate, will clear up completely a very large percentage of these cases in which free, foul pus is obtained.

This is especially true if one has the patient to use something at home to keep the nasal passage open for free flow of air and also room for the pus to escape from the antrum. Vaccines have also proved helpful in many of my cases when given during the time the antrum was being irrigated.

Simpson[13] has emphasized the fact that drainage should be the only surgical procedure in these acute and fulminating cases of sinus infection; that many patients have lost their lives because of too much surgery during the acute infection.

Bower[14] states that one of the best ways of attacking infection in the maxillary sinus is through irrigation.

It seems to be generally agreed that when a tooth is removed, it leaves a hole into the maxillary sinus. With coöperation between the dentist and rhinologist, the dental opening may be closed and the antrum irrigated through the nose.

If irrigation and local treatment fail to effect a cure in three or four weeks, then one may do an intranasal antrotomy.

Childrey[15] describes an intranasal operation to be used in these chronic cases which he calls cristectomy. He states that in most cases, radical operations are not necessary because most cases of chronic maxillary sinusitis will subside if proper ventilation and drainage are established.

Then, if the above measures fail, one has the Caldwell-Luc or the Denker operation, which should only be used in cases that fail to respond to more conservative measures.

In selecting these cases, only the sinus cases are reported in which the water returned, at the time of the irrigation, very cloudy (milky looking) or else had large amounts of thick clumps of pus or muco pus. From 1930 through 1941, I treated six hundred and fifty-nine maxillary sinuses. In this series, there were three hundred twenty-seven females whose ages varied from nine to eighty-one years. There were three hundred and eight right and three hundred and fifty-one left infected antrums. Seventy-nine of these patients had both antrums infected and all of the patients with both antrums infected cleared up without one single one of them having to have a Caldwell-Luc. Whether this is a coincidence, I do not know.

This group of maxillary sinus cases were treated by means of spray, building them up generally with calcium, vitamins, liver and iron, vaccines, irrigations, intranasal antrotomy and finally Caldwell-Luc.

The first openings in these cases were made by means of a Charlton trocar, entering the sinus beneath the inferior turbinate and the sinuses irrigated with normal saline. Irrigations were begun as soon as the diagnosis was made whether acute or chronic.

It is also necessary that other sinuses be treated when infected and other foci of infection cleared up. I recall one patient who showed no signs of improvement after six weeks of irrigation that returned perfectly clear ten days after two dead teeth were removed.

Of the six hundred and fifty-nine cases, five hundred and fifty-one were cleared up by a combination of local treatment, vaccines, general body building and irrigations. These patients were allowed to continue their usual routine of business and, therefore, there was no loss of time. Eighty-seven of these cases had to have an intranasal antrotomy, sixty-six cleared up, but twenty-one had to have a Caldwell-Luc or refused further treatment.

Discussion

Dr. W. L. Hughes (Jackson) — I have enjoyed Dr. Cotten's excellent paper very much and since he has covered the etiology thoroughly I would like to confine my remarks to treatment.

In no disease of the ear, nose and throat has treatment changed so much as in the treatment of sinus disease during the past fifteen years. Happily this change has been for the better. This change has been due primarily to one factor—correct diagnosis. We have learned to differentiate between true sinus disease and nasal allergy. We have quit depending on the x-ray alone for our diagnosis and as an indication for surgical interference.

In acute maxillary disease treatment should be confined to the simplest procedures that will promote drainage with a minimum of trauma. This usually includes sprays at not too frequent intervals, mild packs, heat and sedative. I think the sulfonamides are excellent in acute conditions but have been very disappointing in the benefits derived in the chronic cases. As to sprays and ointments containing the drug I think they are of little use.

In our practice irrigations of the antrum are used only for pain that is not controlled by sedatives. I believe that the acute antrum will clear just as fast, and maybe faster, if not irrigated. I believe this so firmly that the antrums I have irrigated in the last year could be counted on one hand. I have not punctured an antrum in the past eight years using the natural antrum the few times I have employed irrigation.

Surgery is almost a thing of the past in maxillary sinus disease. The few that we have seen come to operation were due almost entirely to alveolar fistulas from dental extraction.

I sincerely believe that most chronic sinus disease is due to too vigorous treatment of the acute condition. Any time that bleeding occurs in treating an acute sinus I consider that I have done more harm than good.

Dr. C. A. McWilliams (Gulfport) — Dr. Cotten has given a most excellent paper on the subject of maxillary sinusitis. I am convinced that allergy plays an important part as a causative factor, yet the treatment in such cases in my hands is very often disappointing. I get good results in some cases by using suction irrigation with normal saline, then applying 2% silver nitrate as recommended by Hume.

I use the Proetz treatment in the sub-acute cases being careful to apply very little suction. Later on I rely on what I call the through and through suction with saline without closing both nostrils. In the very acute cases where, with the nasopharyngoscope one can see pus flowing through the middle meatus over the posterior tip of the inferior turbinate and associated with much pain, a very quick way to give relief is to make a temporary opening with a rasp. It bleeds little more than a Douglas puncture and the opening is large enough to give drainage for a week or more. The sinus can be irrigated with a cannula very easily through this opening.

In doing a Caldwell-Luc, I elevate the mucosa instead of using a curette. There is very little reaction with this method especially if the operator retracts the tissues of the cheek very gently and releases the retractor so as not to cut off circulation of blood in the tissues. I never put any packing in the sinus after operating.

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Cardiospasm*

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WHEN the term cardiospasm is used, it is generally understood that there is dilatation of the esophagus, with lengthening and angulation, and difficulty in swallowing; namely, a definite pathological entity with definite causation, and definite set of symptoms. The first description of cardiospasm was by Thomas Willis in 1679[1], from which the following is quoted, "A strong man, and otherwise healthful enough, labouring for a long time with often vomiting, he was wont, very often, though not always, presently to cast up whatsoever he had eaten . . . he would eat until the oesophagus was filled up to the throat, in the meantime nothing sliding down into the ventricle, he cast up raw (or crude) whatsoever he had taken in . . ."

Although the disease entity is named cardiospasm, this is a misnomer, unless one accepts the theory of tonic spasm of the circular muscle fibers leading to final dilatation, as advanced by some authors. It appears that spasm of the cardia does take place in psychoneurotic individuals and in others with lesions that press upon the vagus nerve from without. In these cases of spasm, the esophagus does not go into permanent dilatation and lengthening as it does in the condition which is the subject of this paper. To sum up, some confusion exists as to terminology, and the name cardiospasm is applied not only to the mega-oesophageal type, which is the subject of this paper, but also to a variety of other conditions in which a common characteristic is transient spasm of the cardia, regardless of the cause.

The common theory of mega-esophagus is that it is an achalasia of the lower end of the gullet, being a functional form of stricture due to overactivity of the vagus nerve, from unknown cause. Another theory is that Auerbach's plexus shows degeneration. Then there is the theory of Etzel[2] that it is due to vitamin B_1 deficiency. Wahlberg[3] theorizes that some cases are caused by cardiac infarct. Von Bergmann[4] believes that the condition is a hernia of the stomach through the esophageal opening of the diaphragm. He terms the condition, "the Epiphrenic Syndrome." Van der Bogert[5] reports a case in the newborn in which he believes that he found a definite spasm as the causative agent. There are many other theories.

As to pathology, the esophagus becomes tremendously and permanently dilated, from crico-pharyngeal junction to the stomach, elongated and angulated. At the lower end there is usually a conical pouch leading into a constricted passage which is never completely closed, as in stricture from lye ingestion or carcinoma. The narrowed portion is stenosed by a ring of circular musculo-fibrous tissue. The wall of the esophagus is very thin. In no other constriction of the esophagus does such uniform dilatation occur. In stricture following ingestion of corrosives, cancer of the esophagus, aneurysmal and tumor pressure, each as mediastinal growths, uniform dilatation does not take place.

Mega-esophagus is more common than was formerly supposed. Although only eleven cases were reported between 1879 and 1928, many more have been reported since. The Mayo Clinic, for example, has reported as many as 1200 cases in one series. Newborn babies have it, Birnberg[6] having reported three cases. Since it is found in the newborn, it is reasonable to assume that mega-esophagus is con-

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*Read before Mississippi State Medical Association, May 1943, Jackson, Miss.

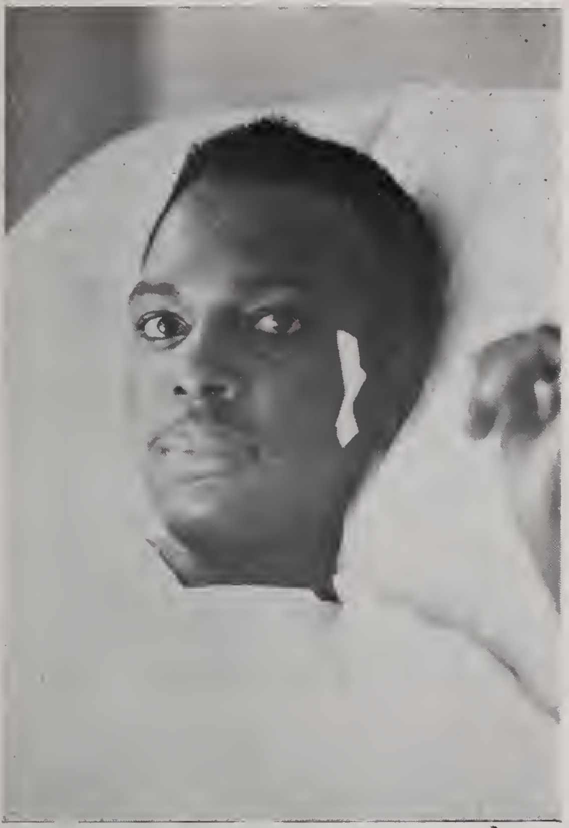

Fig. 1. J. H. Aged 24, showing upper end of swallowed thread, over which dilator was passed unsuccessful from above.

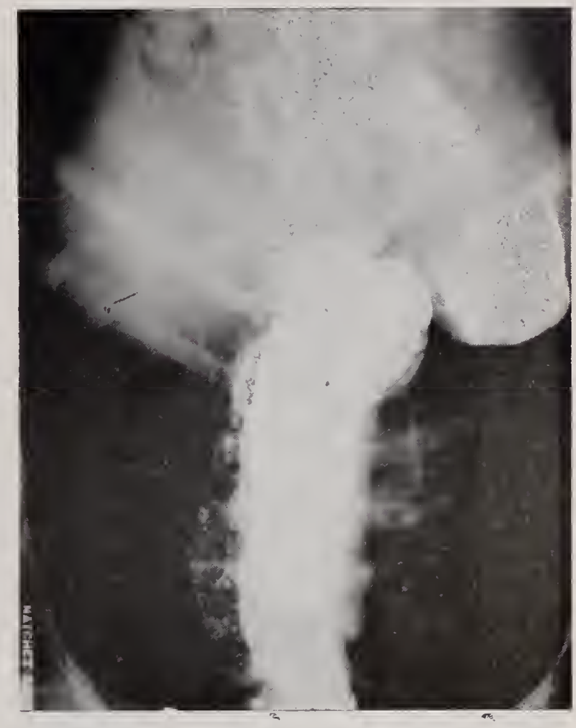

Fig. 2. J. H. Antero-posterior view showing dilated esophagus and contracted stomach.

genital and not due to psychoneurosis, to nervous spasm, nor to spasm set in motion by tumor, aneurysm or other pressure.

In the development of the human body, certain anomalies take place that are peculiar to the principle of constriction and dilatation. For example, there are congenital megacholedochus[7], megacolon, megaloureter, and mega-esophagus[8]. In the present writer's opinion, the so-called cardiospasm that is being described in this paper is really congenital mega-esophagus, and that real cardiospasm is just what its name states, spasm of the cardia, transient by nature and not associated with dilatation of the esophagus.

Treatment of mega-oesophagus is unsuccessful by drugs alone, in spite of the high hopes of certain authors who have advanced the usage of nitrates, nitrites, vitamin B and sedatives. Successful treatment is carried out through dilatation or open operation. Dilatation is usually done from above, preferably with a hydrostatic dilator, such as that of Russell[9], passed over a piece of swallowed thread. There are many other dilators, such as Plummer's, Hurst's, Tucker's and Mosher's barium-striped dilator which is passed under a fluoroscope. A few cases require small bougies to enable the larger hydrostatic dilator to enter the passage. Some need dilatation from below. A few authors dilate manually from below, through an opening in the stomach, and others perform a plastic operation between stomach and esophagus. The latter two methods risk peritonitis from spillage of material into the open peritoneal cavity, that has decomposed in the esophagus. The Russell dilator consists of a rubber balloon[9] covered by a silk bag $2\frac{1}{2}$ by $7\frac{1}{8}$ inches, fastened to the end of a stomach tube. After placement of the bag, water is forced into the balloon, the silk bag maintaining even dilatation over its length. When filled, this produces stretching to something over one inch. Passage of a dilator through an esophageoscope is not easy because the opening into the stomach is too difficult to recognize. The same holds true for blind passage of sounds and bougies without a guide. The risk of puncture of the thin-walled viscus is even

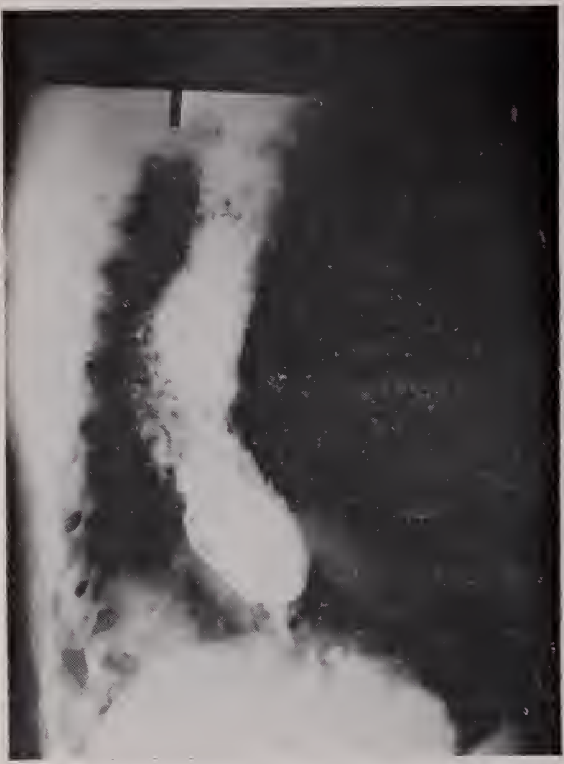

Fig. 3. J. H. Lateral roentgenogram, before dilatation, showing dilatation and elongation of esophagus.

present. Probably the most safe method is the use of the swallowed thread as a guide. This can be done with or without a weight at the end. Gatewood[10] uses a shot. A glass bead seems preferable, and was used in the case reported in this paper. Ingestion of food with the bead apparently aids its passage into the stomach, failure of passage having occurred when food has not been employed.

While no mortality figures are available on treatment by dilatation, the figures on manual dilatation from below, after open operation, are three deaths in twenty-two cases, or 13.6 per cent[11].

The following case history will illustrate the difficulty in handling megaloesophagus.

Case 26041, Natchez Sanatorium. J. H., colored male, age 24, farming, married. Early history and general physical examination reveals no unusual features. Nothing in his previous history to indicate that he had noticed his present condition in childhood, whether it had existed then or not. Routine laboratory tests, including Wassermann, all normal or negative findings. His history was rather typical. For a year there had been increasing pain beneath the sternum associated with deglutition, a copious regurgitation of food. The regurgitated food was not sour, but did have a very unpleasant odor, and was mixed with mucus. X-ray with barium meal showed a normal stomach and mega-esophagus, as shown in the accompanying pictures. Three attempts were made unsuccessfully to pass dilators over a swallowed silk thread. On two occasions, the thread was vomited back, coiled, and, in the third attempt, the dilator would not pass into the stomach, after patient trial. As he was slowly starving, a gastrostomy was done by the Stamm technic, feeding carried on through a large rubber tube. Fifteen days later he was readmitted, his general health having improved. Unsuccessful attempts were again made to get a thread into the stomach.

21st day — Gastrostomy wound enlarged. Unsuccessful attempts to pass bougies from below. This was done without breaking into the general peritoneal cavity.

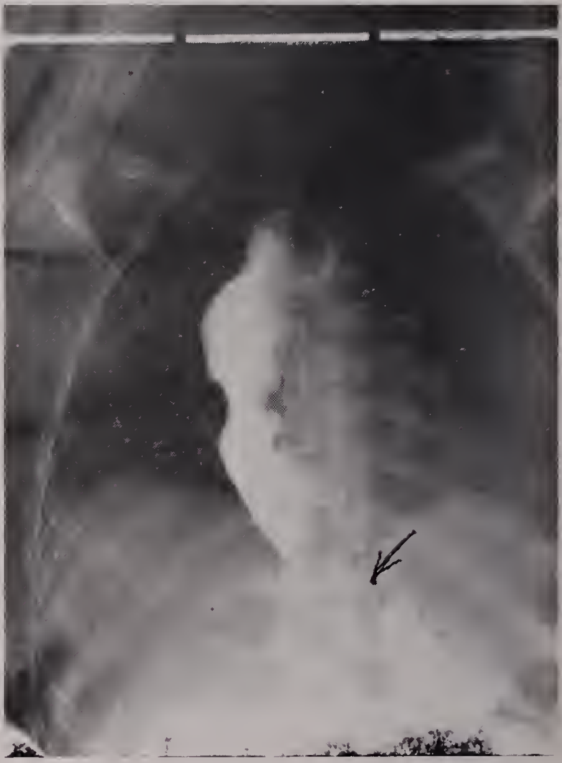

Fig. 4. J. H. Roentgenogram. Arrow points to dilated area where barium meal did not rest long enough to show in photograph. Note peristaltic wave in esophagus which is completely absent in x-rays taken before treatment.

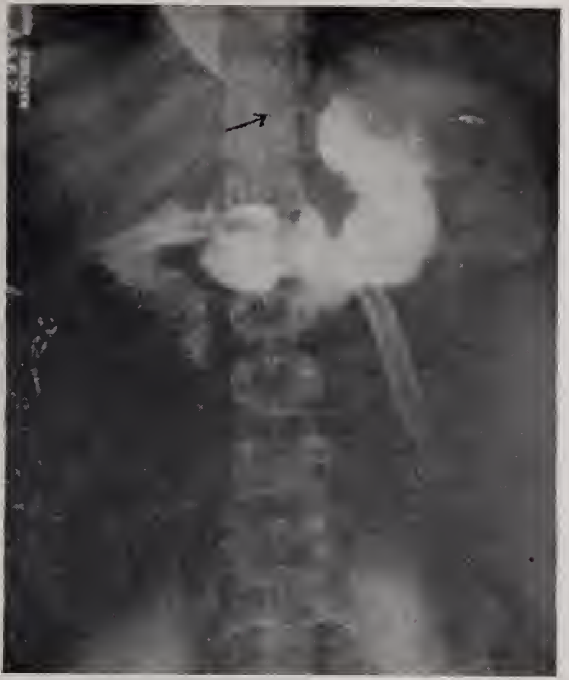

Fig. 5. J. H. X-ray of stomach after dilatation and before removal of gastrostomy tube. Arrow points to dilated area, through which the barium has passed without adhering to esophageal wall. Note that gastrostomy tube has slipped over into duodenum.

23rd day—Pneumonia.

36th day—Apparent recovery from pneumonia.

42nd day—Thread again swallowed.

43d day—Unsuccessful attempt to dilate from above.

44th and 45th days—Unsuccessful attempt to dilate from above.

48th day—Glass bead, attached to thread, swallowed.

49th day—Unsuccessful attempt to recover thread and bead from stomach, using cystoscope through gastrostomy opening.

50th day—Bead attached to thread, swallowed with food.

51st day—Recovery of bead through gastrostomy opening. Passage of Russell dilator over thread, from below, successfully. Stenosed cardia thoroughly dilated.

52nd day—Feeding entirely by mouth, apparently successful.

54th day—Gastrostomy tube removed.

58th day—Discharged.

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Discussion

Dr. D. G. Rafferty (Pass Christian)—The statistics of cardiospasm in three clinics I have kept in the last 30 years show over 21,000 cases, which is a large number if one considers that they came from free clinics. There are many clinics in this country that are not free and I believe that we doctors have been missing many of these cases. Why cardiospasm happens we do not know; there have been several theories advanced as to how that should happen. One of the theories is that the nervous system supplying that part of the stomach—the cardiac part of the stomach—is defective. As the essayist mentioned, we have mega-esophagus and spasm at the same time. Why that happens of course we do not know. The first symptoms may be just an effort to swallow—swallowing all the time with no pain. That may last for a very little time until the condition is developed where we have the three classical symptoms, pain around the cardiac into the stomach, difficulty in swallowing and then the regurgitation of food.

I have only seen two cases in my career of advanced cardiospasm. One was in my senior year in medical school when the patient was brought before the class in surgery, fed a meal and the professor told us primarily what would happen. In about two or three minutes it happened. This patient was a young girl, as I recall, about 19 or 20. In about three minutes after she had taken her liquid meal, as the professor had told us, it just came up like water over a dam, no forced vomiting.

As has been brought out, it may or may not be a neurotic individual. It may be a laboring man. We can not pin it on nervousness. Treatment may cure the condition in one dilatation of the cardiac. If we are really interested in this condition, we will look further and try to find more cases in our practice.

Dr. R. H. Clark (Hattiesburg)—I have enjoyed Dr. Benoist's paper and congratulate him on his successful management of the case of cardiospasm reported. The multiplicity of terms to describe the disease, the many theories as to the cause, and the various methods used to treat the condition indicate the controversial nature of the symptom complex. A few of the terms used are megaesophagus, phrenospasm, hiatal esophagismus, paralytic dilatation, idiopathic esophageal dilatation and preventriculosis.

The theory of autonomic imbalance seems the most acceptable. According to Knight, cardiospasm in cats can be produced by bilateral section of the vagus nerves. The development of the obstruction can be prevented by immediate removal of the sympathetic fibers, and even after obstruction has occurred relief may be obtained by sympathetectomy. However, according to Oschner and DeBakey sympathetectomy on the human being has not been successful.

Plummer described three stages of the disease, namely: 1) cardiospasm without regurgitation, 2) cardiospasm with immediate regurgitation and 3) cardiospasm with dilatation and food retention, which is, of course, the stage of the case reported by Dr. Benoist.

Differential diagnosis depends largely on x-ray for confirmation. Some conditions to consider are:

1) Fibrotic stricture. History of ingestion of caustics in 80 per cent. Deep x-ray to thoracic cage may produce stricture. Usually higher up.

2) Carcinoma. Irregularity of shadow also usually extends higher.

3) Hysteria.

4) Plummer-Vinson syndrome of hypochromic anemia, atrophic glossitis and achlorhydria is characteristic.

5) Para-esophageal hernia.

6) Mediastinal tumors.

7) Muscular hypertrophy of cardiac sphincter.

8) Angina pectoris.

9) Diffuse spasm of lower half of esophagus.

10) Peptic ulcer.

11) Diverticula of esophagus.

12) Biliary disease.

Skinner and Gray reported 1200 cases at the Mayo Clinic, in which surgical treatment was used in but 7 cases. Maresch in 1933 reported 810 cases from the Mayo Clinic, 5 of which were operated, and 7 per cent of the 670 cases followed remained well. In those cases which cannot be handled conservatively, as reported by Oschner and DeBakey, esophago-gastrostomy gave good results in 90 per cent of the patients.

Dr. P. W. Rowland (Oxford)—For some time I have been engaged in the study of the death rate from heart disease among physicians in this country, for the past ten years particularly. I have not completed my study, but I have satisfied myself on some tremendously startling facts. On November 5, 1941, Dr. Williams, in a talk on cardiac disease, stated that the death rate of physicians in this country has increased appallingly. It has not only done that, it has reached the point becoming a national tragedy. It is worse than pestilence, it is worse than war, it is worse than famine. I have made a study of it for the past 60 years or more. I have learned a lot about it, but I have not learned what to do about it; neither has anybody else, but when we have facts presenting themselves of such an appalling character, it is really time to do something about it.

In the past 10 years 34,000 physicians died in this country. In 28,000 of them the cause of death was given. When I investigated, I found the year 1942 the deaths from coronary occlusion alone, out of 28,000 deaths reported, was 596. During the five-year period, from 1932 to 1937 inclusive, there were 4002 deaths from those three types of heart disease. I did not list angina pectoris of which 33⅓ per cent or more are due to coronary occlusion. I did not list other types; I paid no attention to hundreds of physicians who have already had attacks of coronary occlusion, and who are fortunate enough to be alive, but most of them totally incapacitated, some of them partially. The death rate in those first five years from 1932 to 1937 was 14,000 plus deaths per 100,000 of physicians—14.46 per cent. The five-year period from 1937 to 1942 inclusive was 4500 or 16.62 per cent, 16,629 per 100,000.

We may not be conscious of it, but the intense nervous strain and the extraordinary expenditure of energy caused by war is taking its toll on the whole population, men, women and children. But five times as many doctors die with heart disease as any other group.

Dr. Benoist (closing discussion) — I want to thank you gentlemen for the discussion of the paper and Dr. Rafferty's statement as to the frequency of this disease, which is much more frequent than is recognized. I am as guilty as anybody else in having cases come which I probably pass off as indigestion without going into the complaint more thoroughly. There is some discrepancy between the incidence of cardiospasm in recent years and in the years preceding that, but there certainly must have been just as many cases as in recent years.

Dr. Clark called attention to the confusion of names and theories describing this condition, contributing to the difficulty of handling it. I look upon it as congenital, as a congenital ureter or common duct. I believe it belongs in that class. There is one message I can put across: if any patient comes to your office with symptoms of vomiting, even if it is a newborn baby or a person old enough to have a pre-central pain, go ahead and make an x-ray and determine what you have.

Perforated Peptic Ulcer*

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REFERRING TO SOME OF THE DIFFICULTIES AND DISADVANTAGES IN DIAGNOSING PEPTIC ULCER IN PSYCHOPATHIC GROUPS.

ETIOLOGY

The etiology of ulcer is obscure; many theories have been elaborated to explain it and a number of factors have been extensively investigated. A summary of some of these factors is presented for purposes of orientation:

CONSTITUTIONAL FACTOR. It appears that gastric juice, as such, is not sufficient to overcome the normal protective factors which inhibit ulceration, but that irritation due to acid is involved, especially when the normally present alkaline juices, duodenal, pancreatic and bile, are experimentally excluded. Histamine may prolong healing time and extend ulceration artificially produced.

TRAUMATIC FACTOR. Both internal trauma, such as the consistency of ingested food and constriction due to diaphragmatic hernia, and violent external trauma may be contributory factors.

VASCULAR FACTOR. Circulatory changes may effect tissue resistance and hence be a factor in the etiology of ulcer.

INFECTIOUS FACTOR. Foci of infection are often found associated with peptic ulcer.

HEPATIC FACTOR. Numerous laboratory and clinical observations have indicated that the liver and its secretions may be related in some way to the etiology of peptic ulcer. Observation of peptic ulcer associated with liver disease has been reported.

DEFICIENCY FACTOR. Up to the present, no specific deficiency factor has been absolutely established, but it is possible that impaired tissue resistance, related to vitamins B and C, amino acid, proteins of glandular products, may be involved.

ALLERGIC FACTOR. This has been suggested, but not established.

NERVOUS FACTOR. Experimental and clinical evidence lend support to the neurogenic theory of ulcer formation as originated by Rolitansky. Experimental ulcers have been produced by bilateral vagotomy, by splanchnic section and by the production of a variety of brain lesions. Clinically, also, ulcers have been observed to follow brain lesions such as tumors, injury, aneurysms, hemorrhage and thrombosis.

It is well known that the recurrence of an ulcer is often associated with sustained anxiety or mental distress. The mechanism is difficult to establish experimentally since human mental states cannot be produced in experimental animals. Alterations in motility, gastric secretion and secretions of the alkaline juices of the bile and pancreas have been suggested but not proved.

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*Delivered before the Section on Surgery, Mississippi State Medical Association, May 11, 1943, Jackson, Miss.

A. MORPHOLOGY

ENERVATION OF THE STOMACH. Thoraco-lumbar autonomic from the celiac plexus.

Terminal branches of right vagus to the posterior section of the organ.

Terminal branches of left vagus to the anterior section of the organ.

B. PHYSIOLOGY

EFFECTS OF STIMULATION. 1. Stimulation of vagus increases secretion and peristalsis. Stimulation of thoraco-lumbar autonomic inhibits secretion and peristalsis.

2. The first phase of the peptic secretory response has been called cephalic — sight, smell or taste of food set up impulses which reach the stomach by way of the vagi and stimulate secretion. Ivy points out that the cephalic phase of gastric secretion is caused by reflexes through the thalamus, midbrain or medulla, the vagi being the sole pathway of the excitatory impulses. It is generally accepted that the vagus is the secretory nerve for the peptic, acid-forming cells and surface epithelial cells of the stomach (mucous forming cells).

3. Clinical and experimental evidence in the literature support the theory that the origin of peptic ulcer is in certain instances neurogenic. The mechanism is probably a parasympathetic imbalance, either through stimulation of the parasympathetic center in the interbrain or through paralysis of the sympathetic center from effects of brain lesion. Such stimulation results in some imbalance between the acid factor and defense mechanism against the acid. A case is cited in which it is assumed that the perforation was caused by the abscess in the brain, the abscess being of ototic origin. The case is singular in that the lesion was an abscess.

4. It has been long recognized that except for ulceration due to specific diseases, ulcers of the gastro-intestinal tract are confined to those areas exposed to the action of acid secretions of the stomach. The parietal cells (oxyntic cells) of the gastric glands are apparently the acid secreting glands in the fundus and a large part of the body of the stomach.

CASE REPORTS

These five cases are selected from a psychopathic group.

Cases A and D

Case A. In the afternoon of May 1, 1942, patient vomited coffee ground vomitus. Examination revealed definite shock present and rigidity of the upper quadrant of the abdomen, with tenderness over the right upper quadrant. (No information was obtainable from patient). An emergency operation revealed a ruptured peptic ulcer with localized peritonitis. Patient remained in shock and died at 12:35 a.m. May 2, 1942.

Case D. Very similar.

Case B. On February 4, 1943, this patient was found to be in shock and pain. Vomited coffee ground vomitus. Abdomen somewhat rigid with apparent tenderness of upper right quadrant of abdomen. (No information from patient.) An emergency operation revealed a ruptured peptic ulcer with gastric contents throughout abdominal cavity. Ulcer repaired. Sulfanilamide was left in abdominal cavity and incision completely closed. Patient had a difficult and stormy recovery over period of several days with persistent shock. Abdominal wound failed to heal. When part of sutures were removed the wound opened and straw colored serum drained for several days. Wound healing now and patient improving physically daily.

Cases B, C, E, show approximately same history and recovery period.

Cases A, B, C, D, and E, no histories or information obtained.

Cases A and D died.

These seven cases were selected from general practice.

Case 1. During the afternoon of June 27, 1942, this male patient, age 38, was pushing a truck. He contracted severe pain in abdomen, and within a short time he was examined and gave history. The objective symptoms of tenderness and rigidity were apparent and immediate operation was performed. A ruptured peptic ulcer size of dime was revealed and the peritoneal cavity was full of food and fluid. The ulcer area was dissected out and the abdomen completely closed with eight grams of sulfanilamide instilled. There was slight shock following operation. Recovery was smooth and uneventful with little need for sedation. On the ninth day the stitches were removed. On the tenth day a straw colored serum drained. The drainage continued slightly for twenty-eight days. S. T. 37 was used for cleansing and on the thirty-second day the edges of the wound were approximated. On the thirty-third day the patient was discharged improved.

Case 2. White, male, age 56. History of attacks of indigestion for five years. During the night of December 10, 1941, he complained of extreme fullness in stomach. He appeared in great distress with respiration about 56, abdomen rigid and tender. Immediate surgery revealed a ruptured peptic ulcer size of large pea. Stomach contents were free in the cavity. Purse-string closure of ulcer was used. Recovery was slow and stormy with dietary precaution necessary. Modified Sippy treatment for convalescence. Patient discharged on eighteenth day improved, with very slight wound drainage.

Case 3. Male, age 22. Patient complained in the afternoon of February 13, 1943, of extreme pain in abdomen. Examination revealed a board-like abdomen with extreme tenderness under pressure. Surgery revealed a ruptured peptic ulcer. The area was cleansed and sutured. Eight grams of sulfanilamide enclosed in the wound. Recovery was smooth and non-eventful. Patient was discharged improved on eleventh day. No wound discharge.

Cases 4-5-6-7. Similar to case 3, with slight variation in age and average recovery period of twelve days. Sulfanilamide, eight to fifteen grams enclosed in all wounds. Very slight drainage in this group.

No deaths occurred in this series.

Summary and Conclusions

In analyzing some of the significant factors in the prognosis of perforated peptic ulcer, it is to be noted that in comparing five cases chosen from the psychopathic group with seven cases taken from the general group, that:

1. No histories were obtained previously.
2. All psychopathic cases were in extreme condition and suffering shock.
3. Mortality occurred in two cases.
4. Three cases had a long and stormy recovery period, with drainage averaging more than thirty days, one case still draining.
5. There was one drainage case in the seven reports listed from the general group.
6. There were no deaths in the seven cases taken from general practice. Information could be obtained from each patient.
7. Early diagnosis and immediate surgery following attack is necessary for lowering the mortality rate and lessening recovery period. In the psychopathic group early diagnosis is very difficult.

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Fractures of the Hip*

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BEFORE beginning this discussion, I would like to say that my remarks are made from the standpoint of a general surgeon and not an orthopedic surgeon. In our section of the country it is necessary that a general surgeon be able to handle hip fractures as many of the patients are not financially able to go to the cities where the orthopedic men are located.

Until about two years ago we treated all fractures of the hip by putting them in a plaster of Paris spica cast. During the last two years, we have been using internal fixation by means of nails. The Smith-Peterson nail has been used in most cases.

Indications for type of nail: The location of the fracture determines the type of nail to use. Therefore, the first step is to classify the fracture. There are two classes of fracture of the hip: They are intracapsular and extracapsular fractures. The intracapsular fractures may be further divided into classes 1, 2, and 3. Class I fracture is a fracture near the head. Class 2 is a fracture in the middle region of the neck. Class 3 is a fracture lateral to the weight-bearing line. These fractures may then be subdivided according to direction (vertical, oblique, and horizontal).

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*Read before the Northeast Mississippi Thirteen Counties Medical Society, Sept. 14, 1943.

The Smith-Peterson nail may be used in all of the intracapsular fractures, but is ideal in Class 2. The first step is to reduce the fracture. This is done by the Leadbetter modification of the procedure advocated by Whitman. This consists of reduction of the fracture by perpendicular traction (with the patient's thigh flexed to a right angle), followed by internal rotation and abduction. Reduction is considered completed when the patient's foot on the affected side remains upright when the heel is supported in the palm of the physician's hand. External rotation indicates incomplete reduction, and if it is present, manipulation should be repeated. The extremity is then fixed on the fracture table in abduction and internal rotation and the operative procedure for the insertion of the nail is begun.

The nail may be inserted with or without a guide. We have found the Engel-May apparatus satisfactory as a guide. The guide is inserted at a point ¾ inch below the inferior prominence of the trochanter and from this point the instrument is directed upward at 128° and anteriorly at 15 to 20 degrees. The proper direction is found by checking with anterior-posterior and lateral x-rays, and a guide wire is passed into the head of the femur. A cannulated Smith-Peterson nail is then threaded over the guide wire and is driven up through the neck into the head of the femur.

About eight pounds of traction applied after the operation will lessen muscle spasm and pain which frequently occurs the first few days after the operation. Motion of the hip is begun two weeks after operation and the patient is allowed up on crutches after six weeks. Weight-bearing is not permitted until union can be demonstrated by x-rays. This usually requires four to seven months.

The mortality rate varies depending upon the age and general condition of the patient. This rate is from 12 to 25 per cent.

The extracapsular fractures or fracture of the trochanter offer a different problem from the neck fractures. Fractures of the trochanter present the problem of maintenance of length and position while in fractures of the neck the problem is union. Union will occur in fractures of the trochanter under any type of treatment or without any treatment. The best non-surgical method of treating these fractures is manipulation and reduction followed by the application of a double spica plaster of Paris cast with the extremity in moderate internal rotation and abduction. To prevent shortening skin traction of 12 to 14 pounds is applied beneath the cast.

Another method of treating these fractures is to use the well leg for countertraction. Still another nonsurgical method is Russell's traction.

There has recently been a trend toward operative fixation of these fractures. The neck and the shaft of the femur are employed as points of fixation. The nail must have an extension down the shaft of the femur. An attachable plate may be put on the Smith-Peterson nail or a nail made in one solid piece may be used. The Neufeld nail is an example of the latter. Most orthopedic surgeons prefer the Neufeld nail as there is a possibility of the attachable plate working loose.

Union usually occurs within six to eight weeks. However, weight-bearing should not be permitted until bony union can be demonstrated by x-ray.

DISCUSSION

Dr. Stanley A. Hill (Corinth) — Eleven years ago I had the privilege of spending a period as junior associate and assistant to a seasoned orthopedic surgeon. At this time the Whitman double spica was accepted as a necessary evil rather than a method of treatment in which one was enthusiastic. However, the Whitman method of reduction and the principles taught by him about the turn of the century, were fundamental. Outstanding advance in the efficiency of treatment. Since credit should be given him for making this many patients drag out a miserable death in the cast treatment, we began searching for an improvement, and in 1932 Rodger Anderson's well leg counter traction method was gaining wide popularity and we began using it. It gave the patient freedom of motion in the hips, but due both to the hobbling effect and lack of secure immobilization this method was not ideal. As late as 1934 Kellogg Speed of Chicago delivered an exhaustive discourse at the Clinical Congress of the American College of Surgeons calling this the "Unsolved

Fracture."

In recent years the primary method advocated by our essayist has been perfected. It satisfies practically all the objections of former plans. It is more economical, reduces period of bed confinement, prevents or relieves psychosis, prevents decubitus ulcers, prevents hypostatic pneumonia, and it favors earlier union in a greater percentage of cases.

In applying this most efficient method one requires a fracture table with a slot to receive the casette for anteroposterior x-ray films, a portable x-ray machine, and special nails, guides, and bone surgery equipment. The slot to receive the casette is a great convenience and avoids lifting the patient after reduction for check-up roentgenograms. It may consist of a shallow soft wood (pine) box with an open side placed under the injured hip.

Every surgeon applying this treatment has his own twist in the technique of inserting the internal fixation. The technique of my former chief, Dr. Guy A. Caldwell, New Orleans, is the one I prefer. It may be found in his recent publication, "Treatment of Fractures" (Paul B. Hoeber, Inc., New York).

A dime fixed to the skin by adhesive at the point where the femoral artery tunnels the inguinal ligament—which may be located by palpating for the arterial pulsation. Then a metal rule, notched at intervals of one-half inch, is strapped along the trochanter and upper femoral shaft. The x-ray film will show the image of the dime in the center of the femoral head and the notched rule along the lateral femoral cortex, both projected on the film, in the same proportional magnification in each film. These two outlines on the film then serve as landmarks for measuring and selecting the length of (Smith-Peterson) nail, also determining the direction of insertion. My armamentarium includes a drill and Steinman pin. The pin is first inserted as a guide and a cannulated nail driven through the neck into the femoral head by use of a special cannulated seating handle which is detachable.

This is essentially the same technique as that employed by Dr. Dyer and as can readily be understood is quite workable. I commend this treatment to any who have not tried it. If you are not equipped to apply it, I am sure there is someone nearby who can give the patient its benefit.

The Mississippi Doctor

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The medical profession of New Orleans is to be congratulated on going ahead with their Postgraduate Medical Assembly as usual. They did not see fit to freeze or ration medical information. In this they were right. Memphis said it could not carry on the Mid-South Assembly; but New Orleans did. This brief review of medicine and surgery in a three- or four-day course is needed now worse than ever before for the busy man. New Orleans has rendered a service.

Let us now think on our state meeting at Jackson in May at the regular time at the Robert E. Lee Hotel. Our society acted wisely in going right ahead during the war. The doctors need the help and the solidarity that comes from the gathering. We understand all space has been taken by exhibitors. This is indicative of a good meeting. Our society is badly in need of finances and the exhibitors are the main source of this. There has been a tendency to too much entertainment at medical meetings. The Southern Medical Association reduced entertainment to a minimim the last two years with intensified interest as a result. The Mississippi State Hospital Association will meet again this year the day before the regular state medical meeting. Dr. George Adkins is president.

The first quarterly session of the Northeast Mississippi Thirteen Counties Medical Society held its first session in West Point on March 14 with Dr. H. A. Stokes, president, presiding. Dr. Thomas Moore of Memphis was the guest speaker. Dr. Lyle Motley of Memphis was an appreciated visitor. The scientific program was good. More than fifty men attended the meeting, which was mighty good. The interest was far above average.

The banquet was held at the Presbyterian church with Dr. J. P. Fatheree of West Point presiding. Dr. Kelly Unger, a former missionary to Korea is the able pastor of this church, a native son whom the people of West Point appreciate. The banquet was the nicest and best served we have attended during the "duration."

The Doctors Flowers have bought the Dr. Price Ivy Hospital, modernized it, and are giving the people fine service.

We regret that Dr. A. K. Naugle was unable to attend the meeting due to illness that has kept him out for some time.

We always think of the late Dr. Deans when we go to West Point, a versatile man in medicine who served the people long and well.

West Point is one of Mississippi's best balanced cities in culture, education, and industry.

The June meeting of the society will be held in Corinth, the northern gateway to Mississippi.

War is an awful thing. Since the first war was fought in heaven, there have been countless wars fought on earth, all due to pride, greed, selfishness and ambition. There will probably be many other wars, for the Man of Galilee told his followers that there would be wars and rumors of war until such time as He who was born King of the Jews would come to fight by the word of His mouth against those who would exterminate His people. At that time He will set up His kingdom and of His righteous government there shall be no end. Of course there will be no cause for war when governments shall be righteously administered. We were asked to join in World War I in order that there should not be another war. At the close of that war, while I talked with a great thinker, patriot and statesman, he said, "We have won this war but we are going to lose the peace for which we have fought unless laws are immediately passed that will conscript every able-bodied man and every dollar of public and private treasure should another war threaten. "However," he added, "our government is owned and run by a comparatively few men who want wars because their riches are increased in time of war." He unhesitatingly and emphatically advocated universal conscription of both men and capital as a prevention of future wars.

While we have above ten million of our boys in uniform and they have no choice as to whether they shall shed their blood or give their lives, other millions of men can go on strike at any time and thereby stop the production of necessary military equipment. Our boys are fighting for "our government and our way of life," while the miners and railroad workers are working for individual corporations which are making untold millions out of the government and are unwilling to divide this ungodly gain with the men who produce this wealth. It does seem there is justice and sense in having the government take over ALL business and declare a recess in all profit-making for the duration. Our government is unquestionably the greatest and best on earth but it could be better. One only has to remember what took place in Russia twenty-five years ago. Prior to that time all wealth was in the hands of a negligible minority. The others were peasants or serfs. They were worse than slaves. But when World War I began, the Russian masters joined up with the Allies. But when they put guns into the hands of the hordes of serfs and told them to shoot Germans, they simply refused to do so. They said, "Why should we kill Germans? They have done nothing to us." So, under Lenin's leadership, they turned their attention to their masters and the world's most perfect act of elimination was the result. Never in the annals of history have such fighters now been known. They are invincible because they fight for love of country, freedom and liberty. They love their country because it belongs to them now, since they have taken it from the oppressor class. Now every living Russian is part owner of that great empire. But I had rather die than see the things happen here that have happened there. May God grant that our people may awake in time to see the trend and take the necessary steps to stem the tide. We shall never see the same way of ilfe again; for "our way of life" is a thing of the past. When this war is over it will be better or worse. Which will it be? The great Tolstoi saw the approaching doom to his class and tried to awaken Russia. But the ruling class was blind and would not see. England's great poet-thinker Kipling warned his country and the world that the great Russian bear was hibernating and that when his long winter sleep was past he would stand and walk like a a man. The great commoner William Jennings Bryan warned us that capital must be controlled or revolution would be inevitable. He has long been dead and his warning goes unheeded. Those of us who are growing old can do but little or nothing save to sound the note of warning against the certainty of a national catastrophe in the near future.

—G. S. B.

News and Comment

POSTGRADUATE COURSES AVAILABLE TO STATE PHYSICIANS

The Mississippi State Board of Health is making available to practicing physicians postgraduate fellowships in obstetrics and gynecology and also pediatrics. These courses will be held at Tulane University School of Medicine on the following dates:

Obstetrics and Gynecology — April 17-21, 1944.

Pediatrics—May, 1944.

Obstetrics and Gynecology: The course will embrace illustrated lectures, moving pictures and round table discussions. The subjects covered will include prenatal care, toxemias of pregnancy, obstetrical analgesia, interference in obstetrics, resuscitation of the newborn and causes of asphyxia, radiology—its practical application to obstetrics, tuberculosis in pregnancy, cardiac disorders and pregnancy, renal disease and pregnancy, abortion, obstetrical emergencies, diseases of the vulva, vaginitis, chronic cervicitis, leiomyoma uteri, gynecology displacements, the anatomy of the female pelvis and perineum, early recognition of genital cancer, the functioning ovarian tumors, acute and chronic pelvic inflammatory disease, urology of the female, the use of sulfa drugs in gynecology, thrombophlebitis, gynecological emergencies, practical use of the estrogens in gynecology, sterility, ectopic pregnancy, dysmenorrhea, and the menopausal patient.

Pediatrics: While this course is designed largely for the general practitioner who is doing pediatrics as well, those specializing in pediatrics will enjoy the opportunity for a brief but comprehensive review to date.

Feeding of infants and children, heart disease, ocular anomalies, erythroblastosis foetalis, pertussis therapy, neonatal asphyxia, immunizations, diagnostic roentgenology, emergency management of household accidents, problems in caring for handicapped children, and dental problems in pediatrics are among the topics to be discussed. In addition to the formal lectures, there will be a clinicopathological conference, an x-ray conference, ward rounds, demonstrations, and round-table discussions at luncheons. Two evening lectures will also be included.

Physicians interested in these courses should communicate with Dr. Felix J. Underwood, executive officer, Mississippi State Board of Health, Jackson, immediately. The fellowships provide a refund of actual travel expense from the physician's home and return, plus a daily stipend for the days while attending the course, and tuition.

These courses afford an opportunity for physicians to review latest information in these two fields.

The Commonwealth Fund of New York City is offering courses in surgery and internal medicine. For further information regarding these fellowships, write to Dr. Harvey E. Handley, Assistant Director, Division of Public Health, The Commonwealth Fund, 41 East 57th Street, New York 22, New York.

ALLERGY FORUM

On April 15 and 16 there will be an informal meeting of the Southwest Allergy Forum at the Robert E. Lee Hotel in Jackson.

Formal meetings of the Forum have been discontinued for the duration. Last year an informal meeting was held in Dallas. Then men attending are usually those desiring one or two days' vacation but who still wish to improve their time.

All men over the state interested are cordially invited to attend.

The American Public Health Association will hold its second Wartime Public Health Conference and the seventy-third annual business meeting in New York City, October 3, 4, and 5, 1944.

Deaths

DR. IRA S. TAYLOR

Dr. Ira S. Taylor, who had recently come to Tunica to reside, died suddenly last Tuesday while supervising work on his plantation near there.

Dr. Taylor was a graduate of Chattanooga Medical College, Chattanooga, Tenn. (1905).

Funeral services were held Thursday morning at McCool, where he had practiced for 22 years.

Survivors are his wife, Mrs. Dalsey Taylor, of Tunica, and a daughter, Mrs. R. L. Kennedy, also of Tunica.

DR. JAMES ANDERSON

Dr. James B. Anderson, 72, prominent physician of Yazoo City died of pneumonia March 14 at the Kings Daughters hospital in Yazoo City.

Dr. Anderson, who was born Feb. 27, 1872, at Bovina, Miss., had lived and practiced medicine in Yazoo City for 39 years. He was a member of the Methodist church, and was a Mason and a Shriner and a graduate of Tulane University, New Orleans, La.

Dr. Anderson is survived by his wife, Mrs. Ina R. Anderson; two sons, James B. Anderson, Jr., of Yazoo City and Jack France Anderson of Gulf Coast Military Academy; and one daughter, Mrs. Baker F. Smythe of Jackson.

DR. HARRY SMITH

Services for Dr. Harry Maxwell Smith, 55, well-known physician of Natchez, were held Feb. 20 at his home.

Before failing health compelled his retirement a few years ago, Dr. Smith had an extensive practice in Louisiana and Mississippi, and was a leader in organizing the Louisiana-Mississippi Foxhunters Association. Interested in all sports, he gave much time to breeding fine stock and hunting dogs.

Following his internship at Natchez Charity Hospital, Dr. Smith started practice as a physician and surgeon in Natchez shortly before World War I. On the entry of the United States into the war, he volunteered, received a commission and was assigned to the Philippines. After the war he resumed practice in Natchez.

Dr. Smith was born in Newbern, Tenn. He held a fellowship in the American College of Physicians and Surgeons and was a member of the Mississippi Medical Association. He also was a member of the Masonic Lodge in Yorkville, Tenn., was a Shriner, a member of the American Legion and 40 and 8.

He is survived by his wife, Mrs. Mattie Rife Smith; a daughter, Martha Maxine Smith; eight brothers, A. M. Smith of New Orleans, W. T. Smith of Crowley, La., Frank Smith of Memphis, Homer Smith, of Hornbeak, Tenn., Munsey Smith, Leland Smith, O. K. Smith and Richard Smith, Newbern, Tenn., and a sister, Mrs. David Rice, Nashville, Tenn.

DR. JAMES ALGERNON TOOLE

Dr. J. A. Toole, 61, died following a fall from a parked car February, near his home in Stewart, Miss. He was a graduate of Memphis Hospital Medical College, (1907) Memphis, Tenn. Burial was in Enid, Miss.

DR. RICHARD D. SESSIONS

Services for Dr. R. D. Sessions, who died Monday night following an extended illness, were held Jan. 25 in Natchez.

He had practiced as physician and surgeon in Natchez for more than 50 years and until failing health caused his retirement was a leader in his profession.

Funeral services were conducted by the Rev. Stuart Henry, pastor of the First Presbyterian church.

Dr. Sessions was born in Franklin County, Miss., October 8, 1869, and was the son of the late J. F. and Eliza Dunckley Sessions. He held his M.D. from Tulane University, New Orleans, La. Among honors he held he was president of the Adams County Medical Society, the Homochitto Valley Medical Society, and vice-president of the Mississippi State Medical Association. He was a fellow in the A. C. S.

DR. OLIVE WILSON

After a long illness, Dr. Olive Alice Charles Wilson died at Rush Infirmary in Meridian, March 12.

Dr. Wilson, one of the pioneer women doctors of the South, practiced medicine in Paragould, Ark., from 1899 to 1936, when she retired.

A graduate of the Women's Hospital Medical College in 1891, Dr. Wilson took an active part in many organizations of the medical profession. She held membership in the Arkansas Medical Association, American Association for Medico-Physical Research, American Medical Association, American Electronic Research Association and Greene County Medical Society.

Surviving are a son, J. W. Wilson, Meridian; a grandson, Lieut. Comdr. Edward C. Wilson of the Navy; two great grandchildren, and two sisters, Dr. Etta Charles, Anderson, Ind., and Mrs. Nelle T. Terrill, Cedar Rapid, Iowa.

Book Reviews

SYNOPSIS OF OBSTETRICS, by Jennings C. Litzenberg, B. Sc., M.D., F.A.C.S., Professor Emeritus of Obstetrics and Gynecology, University of Minnesota Medical School, Minneapolis, Minn. 405 pp., with 157 illustrations. Indexed. C. V. Mosby Company. Price $5.00.

For several years the C. V. Mosby Company, St. Louis, has followed the excellent practice of publishing synoptical books on the most pertinent phases of medicine and surgery, for particular use by the general practitioner. This synopsis is a second edition and is revised to include new evaluations of obstetric progress. The relation of ovulation and conception to the menstrual and ovarian cycles is elaborated somewhat. More discussion is given to prenatal care and pregnancy diet, with a rather radical swing to advances in nutritional science. Additional help is brought in the chapters on toxemias of pregnancy, hemorrhagic disease of the newborn, use of the sulfonamide drugs in puerperal infection, and continuous caudal analgesia.

Like the first edition, this synopsis will prove an invaluable handbook in obstetric practice.

SYNOPSIS OF MATERIA MEDICA, TOXICOLOGY, AND PHARMACOLOGY, by Forrest Ramon Davison, B.A., M. Sc., Ph.D., M.B. formerly in Medical Department, University of Arkansas, now Medical Department, the Upjohn Company, Kalamazoo, Mich. 759 pp., 40 illustrations. Indexed. Published by C. V. Mosby Company. Price $6.50.

This book, in the third edition, is prepared for students and practitioners of medicine. The author has given a practical everyday text for the practicing physician, emphasizing the drugs he commonly uses, and evaluating the new drugs which have revolutionized his practice in some instances. Late research and experiment on the vitamins, hormones, and sulfonamides make this book especially desirable. The concise, uninvolved manner in which the subject matter is presented places the text at once among those references the busy doctor can afford to utilize. The chapter on toxicology meets the essential requirements of industrial practice. This is another of the series of synopses which fit into the daily reference shelf.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Vicksburg.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PATHOLOGY

THE PRESENT DAY STATUS OF COMBINED BLOOD PLASMA BANK, WITH REFERENCE TO THE USE OF CONCENTRATED RED CELL SUSPENSIONS. Leon L. Blum, M.D., Journal Ind. State Med. Assoc. 36: 187-193 (April) 1943.

The recognition of the life-saving value of plasma transfusions rightly belongs to epoch-making events in the history of medicine. Its military significance cannot be overestimated, but civilian needs for readily available plasma are also great.

After blood is withdrawn from the donor two methods are available for the preparation of the plasma, centrifugation and sedimentation. Since it is impossible for any hospital not specifically designated by the Office of Civilian Defense to obtain a blood plasma centrifuge, it is necessary for hospitals not so designated by the O.C.D. to use the sedimentation method although the yield of plasma is about twenty-five per cent less.

After plasma has separated from cells, the plasma is drawn off into a pooling bottle, cultured, a preservative is added and the pooled plasma is divided into units of 250 cc. and frozen or maintained at room temperature. Plasma properly frozen and properly thawed in a water bath of 37° C. is clear and indistinguishable from the original fluid.

The not important by product of the plasma bank is concentrated red cell suspensions. It is usually taken for granted that waste of the red blood cells of the plasma is unavoidable, but this is not the case since it is possible to put the red cells to satisfactory use as concentrated suspensions. In order to make use of the red cells after plasma has been withdrawn, 25 cc. of 50% dextrose is added with a syringe and the red cells are stored in the refrigerator up to three weeks. Before administration of the cells, 25 cc. of normal saline is added. These concentrates possess certain advantages as follows:

1. Maximum increase of hemoglobin can be produced with a minimum transfused volume.
2. Group O concentrates are immediately available without preliminary crossmatching.
3. Utilization of red cell concentrates conserves plasma and donors for other useful needs.

The combined blood plasma bank furnishes the following types of blood:

1) Whole citrated blood, 2) whole citrated blood preserved with dextrose, 3) pooled plasma, liquid (room temperature), 4) pooled plasma, frozen, 5) diluted plasma in dextrose, 6) erythrocyte concentrate.

A simple and satisfactory way to determine the dosage of plasma in cases of shock is to give 100 cc. of plasma for each point of hematocrit exceeding the average normal of 45. Thus a man with hematocrit reading of 54 should receive 900 cc. of plasma.

One unit of erythrocyte concentrate raises the hemoglobin concentration approximately 12 to 15 per cent.

Plasma and blood must be administered through a filter to remove floccules of fibrin. Infusion of plasma into the bone marrow is useful in cases of shock or burns where the peripheral veins may be collapsed or multilated.

Minor reactions occur in about one per cent of cases after administration of plasma. No fatal reactions have been recorded.

PEDIATRICS

ATTEMPTS TO ACCLIMATE POLIOMYELITIS VIRUS TO TOMATO PLANTS — Tooney, John A. and Corum, C. J.—Proceedings of the Society for Experimental Biology and Medicine, 54:10 (October) 1943.

The authors state: "It is now generally believed that the gastro-intestinal tract of the human being from the stomadeum to the hind gut is probably the main portal of entry of poliomyelitis virus."

"Because the gastro-intestinal tract has been implicated, it has been thought by the writers that the virus might be found on and ingested with food." "The common edible plants present no ostensible signs of infection, but it is possible that they may become infected without external or internal evidence of disease." The writers were not able, however, to demonstrate the presence of poliomyelitis virus in or on fruits, etc., although their failure to find it does not mean that it was absent. "It was decided to see if poliomyelitis virus could be acclimated to some common plant.

"The tomato was chosen for this work. Forty-eight tomato plants were planted in the University greenhouse and allowed to grow to an age where four separate shoots had appeared along the main stalk. They were then divided into sets of 6 and tested with one of the following materials: (a) 'enteric' toxin, the filtrate obtained from coliform organisms growing in beef broth; (b) poliomyelitis virus; (c) virus in 'enteric' toxin, and (d) sterile physiological saline. Two experiments were made with each test suspension, in the first of which a drop of material was placed on the fourth leaf from the tip of six plants and rubbed in with a smooth spatula; a second set of six plants were each injected with a drop of the same test substance just below the third internode. None of the 48 plants showed any reaction. Growth was neither distributed nor stunted by the rubbing nor by the injections of any of the test suspensions."

"The writers were not able to demonstrate any injury to the plant though it might be possible that virus could be present without producing any obvious disease in the host. Therefore, the plants which received virus were ground, the material filtered, and the fluid obtained was injected into one monkey (2 cc. intracerebrally—I. C.), 3 Eastern cotton rats (0.06 CC. I. C.—0.5 cc. subcutaneously—S. Q.), 3 white rats (0.06 cc. I. C.—0.5 cc. S. Q.) and 3 mice (0.03 cc. I. C.—0.5 cc. SQ.) No symptoms developed in any of the animals."

COMMENT

"Thus, the writers have not been able to demonstrate that poliomyelitis virus can either live or multiply in the tomato plant."

This paper is given to show that there is a great amount of research work endeavoring to find the cause of poliomyelitis.

State Board of Health

Felix J. Underwood, M.D.

PUBLIC HEALTH IN INDUSTRY

by
Wayne L. Ritter, M.D.
Associate Director
Division of Industrial Hygiene

The distortions of community life brought about by the war have been responsible for the introduction of many beneficial practices affecting employer and employee. It is believed that the methods employed by Alcorn County, Mississippi, in meeting the problem of that area are of sufficient interest and general application to justify an individual report.

This county, with a population of approximately 24,000 people, has been left with only four physicians who are physically able to carry on a full-time practice. There are five others who are helping as much as their health and age will permit. The case load for each physician each day has been appreciably more than time, patience and perseverance could be summoned to manage.

To complicate this burden, the five principal industries of the community, each employing from 25 to 700 people, have found themselves more than normally busy since the routine of their work has been augmented by war contracts. Their labor turnover, as in all areas, has increased greatly. New labor could be obtained only from among those who represented the lower borderline of the industrially employable.

In the fall of 1943, the manager of one of the businesses came to the health department to see if some joint undertaking couldn't be organized to help him in his dilemma. A complete health inventory of his several hundred employees had been made by the Division of Industrial Hygiene of the State Board of Health in 1937. At the time of this survey a number of cases of tuberculosis were found, many employees needing visual correction were singled out and helped, immunizations against smallpox and typhoid were given all the employees. This manager, through this experience, had seen the advantage to be gained from such a program and expressed the desire to have it continued under local auspices as a permanent part of the life and safety of his employee population.

County health departments make rather thorough examinations of all foodhandlers as a routine practice. The manager asked why such an examination could not be extended to his employees. The health department, after consultation with most of the physicians still in active practice, consented to take this new industrial responsibility on a trial basis. There seemed to be little or no experience from any of the other health departments to guide them. However, it was believed that after they had done the job themselves for a while they would be in the best possible position to decide how adequate and fair and effective such a program might be when administered out of their own office.

The trial period lasted from the end of October until early in February. During this time all prospective employees of this one plant were given "foodhandlers' examinations." The examinations include laboratory analysis of stools for detecting intestinal parasites, the examination of feces and urine cultures for typhoid, salmonella, and dysentery organisms, a serological test for syphilis, and a chest x-ray. Immunization against smallpox and typhoid fever was provided routinely.

The mill management paid the county tuberculosis association $1.00 for each chest x-ray that was taken. There was no other expense to the mill. As these examinations were completed and arrangements were made for any follow-up indicated, each applicant was given a "foodhandler's certificate" and referred back to the mill for work.

The program proved thoroughly satisfactory to the management of the mill and did not seriously inconvenience work in the health department. However, some streamlining might have proved helpful. Those who are familiar with industrial pre-placement examinations realize that one must take into consideration the length of time necessary to complete these examinations and the frequent lack of coverage of certain details which are essential for industry.

At the end of the trial period, the State Board of Health's Division of Industrial Hygiene had a conference with the local health department and the one practicing physician in the county who is designated as plant physician by almost every industry there. During this conference, it was agreed that the trial period had been a success as a sound community health program and should be continued. However, to gear it more closely to the needs for which it was designed, it was decided that stool and urine cultures for typhoid would no longer be done unless the applicant gave a history of typhoid fever sometime in the past. To replace this time-consuming collection of laboratory material, which needed much care if the analyses were to be significant, the local health department agreed to spend a proportionate amount of time and effort in checking the health, weight, blood pressure and vision of all applicants. A Keystone telebinocular was set up and the routine of industrial visual checks (used in most of the large industries) was explained in detail to the supervising nurse who will be responsible for this visual screening method.

During the course of these trial examinations in the one mill, the managers of the other industries of the community and the private industrial physicians had looked on very carefully and with much interest. Their discussions led to the conviction that they, too, wanted some program of this type.

Since the labor market is still pretty tight in Corinth, industrial management was not interested in a survey of the health of their entire working force. Such a job would be time-consuming and might alienate some of the employees. They felt, however, that a pre-placement examination along these lines was definitely a step in the right direction. It was agreed, therefore, that if the program was done for one industry, it must of necessity be extended upon request to the other industries. This will afford all of the industries in the county an opportunity to scrutinize and evaluate at close range an industrial health program so that they can begin to assimilate into their own industrial units as much of the function as seems adequate and effective for their needs. The two larger industries of the community are beginning to contemplate acquiring a registered nurse who might be oriented into the local needs and programs by assisting not only in the plant, but also in the pre-placement examinations in the health department and with the industrial physician and his nurses in his office.

Discussion:

This program is not proposed as a cure-all. It is certainly not applicable to large industrial units or urban areas. It is an approach to a problem in the smaller and predominantly agricultural areas where physicians are notably scarce. It might be utilized by other health departments as a method of contacting the industries in their community that are without physical examinations or direct medical supervision. Such an approach might bring these smaller and more isolated units into an appreciation of the advantages of modern industrial medical practice and preventive medicine.

* * * * *

Venereal Disease Control

Dr. E. E. Merse, Clinic Supervisor, Venereal Disease Control, reports that in 1943 there were 1,133,054 treatments administered for syphilis in the state's venereal disease clinics, an increase of 109,448 over the total for 1942. The total for 1942 was 923,606 treatments compared to 555,158 in 1941.

The number of new cases of syphilis admitted in 1943 in the state decreased from 30,298 in 1942 to 23,018 in 1943. This decrease in cases may be attributed in part to the fact that the State's Selective Service System in 1943 had reached into that age group where fewer cases existed, although a gratifying number of cases in the early stages of the disease were brought to light and treated. The number of treatments increased during the year because of a more effective follow-up program on all cases.

* * * * *

Meningitis Cases Mounting:

On February 21, 1944, Dr. Underwood addressed the following letter to every physician in Mississippi after conferring with Dr. A. L. Gray, Director, Division of Preventable Disease Control. Because of its importance, the letter is herewith repeated:

Dear Doctor:

Events in Mississippi and surrounding states in the last thirty days lead to a logical conclusion that the state is now in the beginning of a widespread epidemic of cerebrospinal meningitis which may reach very serious proportions within the next two months. This is the beginning of the season when this disease becomes epidemic. Tennessee, Alabama, and Louisiana have had unusual increases in the past few weeks. Mississippi has had many more known cases than usual in the past week.

One of the most disturbing features of the developing epidemic has been tardiness or failure on the part of attending physicians to report suspects and known cases to health officers. Some cases have only come to the attention of health officers by calls from panic-strickened citizens knowing of the cases and lack of necessary isolation and quarantine precautions being taken for cases and contacts. Regulations under authority of law require prompt reporting of this dangerous disease. Isolation and quarantine may not be too effective but we have no other protection against its spread. Practically no hospital in the state will accept known cases. Physicians are not in position to care for a large number of cases of this disease in homes.

If anything can be done to prevent spread of epidemic diseases, the public has a right to expect that such be done. Physicians and health workers have a great and joint responsibility in this respect. The least that can be justly expected of physicians is immediate reporting of cases and suspected cases of meningitis and other communicable diseases to health ofifcers. It is then imperative that the health officer act **promptly** in putting into effect State Board of Health regulations in an effort to prevent the spread of the disease. The State Board of Health and health officers are too often criticized by the public for failure to take action to control disease when lack of action is due to failure of physicians in reporting to health officers.

Your promptness in reporting will be appreciated and will be helpful in preventing a serious epidemic in this most critical period and will prevent public criticism of health officers and practicing physicians. Let's work in close coöperation in every community in

Mississippi.

Please note the attached rules and regulations.

Very truly yours,
Felix J. Underwood

* * * * *

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	Jan. 1944	Jan. 1943	Jan. 5-yr. Average
Acute poliomyelitis	1	0	1.6
Bacillary dysentery	514	302	301.2
Dengue	0	0	0.0
Diphtheria	21	33	29.0
Influenza	24523	8272	22401.2
Measles	1316	810	1181.4
Meningococcus meningitis	47	49	20.6
Other forms meningitis	13	1	6.8
Pellagra	178	171	187.6
Pneumonia	3111	2378	2751.8
Pulmonary tuberculosis	121	120	98.8
Scarlet fever	45	57	49.8
Smallpox	3	1	2.0
Tularemia	2	5	4.0
Typhoid fever	2	3	3.0
Typhus fever	5	3	2.6
Undulant fever	0	0	1.6
Whooping cough	1021	583	722.0

CHANGES IN THE LIST OF MISSISSIPPI PHYSICIANS

(Since the March 1, 1943, Roster)

ADD:

Dr. D. C. Alsobrook to Edwards, Hinds County.

Dr. W. D. Casey to Walls, DeSoto County, returned from military service.

Dr. Ben R. Heinger to Hatten Building, Gulfport, Harrison County.

Dr. W. G. Hollister, Reserve Medical Officer of the United States Public Health Service, to State Board of Health Jackson, Hinds County.

Dr. J. H. Leigh to Lexington, Holmes County, returned from military service.

Dr. M. L. McKinnon to Meridian, Lauderdale County.

Dr. J. R. Markette to Brookhaven, Lincoln County, returned from military service.

Dr. W. D. May to Columbia, Marion County.

Dr. James Watt to Yazoo City, Yazoo County.

Dr. Laura O. Williams to Meridian, Lauderdale County.

Dr. R. H. Allen to Corinth, Alcorn County.

REMOVE:

Dr. C. G. Callender from Edwards, Hinds County.

Dr. C. J. Edwards, Jr., from Vicksburg, Warren County, entered military service.

Dr. O. F. Carr from Clarksdale, Coahoma County, deceased.

Dr. Berath M. Davis from Jackson, Hinds County, gone to Texas.

Dr. J. M. Kercheval from Indianola, Sunflower County, gone to Clinton, Indiana.

Dr. C. S. Middleton from Pocahontas, Hinds County.

Dr. J. C. Nash, Jr., from Tupelo, Lee County, lives in Memphis, Tennessee.

Dr. L. C. Rouse from Pascagoula, Jackson County.

Dr. J. P. Tatum from Meridian, Lauderdale County, entered military service.

Dr. J. C. Walker, Jr., from Jackson, Hinds County, entered military service

CHANGE:

Dr. W. Jeff Anderson, Jr., from Threefoot Building, to Anderson's Infirmary, Meridian, Lauderdale County.

Dr. J. F. Flynn from Lauderdale County Health Department to Public Health Treatment Center, Matty Hersee Hospital, Meridian, Lauderdale County.

Dr. M. L. Flynt from Riley's Hospital to Threefoot Building, Meridian, Lauderdale County.

Dr. M. L. Flynt, Jr., from Matty Hersee Hospital to Threefoot Building, Meridian, Lauderdale County.

Dr. H. A. Thigpen from Puckett, Rankin County, to Bay Springs, Jasper County.

Dr. H. P. Browning from Union, Newton County, to Indianola, Sunflower.

GONE TO MILITARY SERVICE:

Dr. C. J. Edwards, Jr., from Vicksburg, Warren County.

Dr. J. P. Tatum from Meridian, Lauderdale County.

Dr. J. C. Walker, Jr., from Jackson, Hinds County.

CHANGES IN COUNTY HEALTH OFFICERS:

ADD:

Dr. W. H. Cleveland, Acting Director, Prentiss County.

Dr. T. L. Harvey, Director, Alcorn County, and Acting Director, Tishomingo County.

Dr. Sidney J. Williams, Acting Director, Amite County.

REMOVE:

Dr. J. F. Bradley, Director, Prentiss County.

Woman's Auxiliary
TO THE
MISSISSIPPI STATE MEDICAL ASS'N.

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President-Elect	Mrs. L. J. Clark Vicksburg
First Vice-President	Mrs. V. B. Philpot Houston
Second Vice-President	Mrs. Henry Boswell Sanatorium
Third Vice-President	Mrs. W. H. Anderson Booneville
Assistant	Mrs. Stanley Hill Corinth
Fourth Vice-President	Mrs. R. B. Caldwell Baldwyn
Recording Secretary	Mrs. George E. Riley Jackson
Treasurer	Mrs. J. D. Simmons Cleveland
History and Archives	Mrs. Harvey Garrison, Sr. Jackson
Parliamentarian	Mrs. W. C. Pool Cary

Councilors: First District, Mrs. H. L. Cockerham, Gunnison; Second District, B. S. Guyton, Oxford; Third District, Mrs. Thomas M. Gore, Houston; Fourth District, Mrs. J. K. Avent, Grenada; Fifth District, Mrs. George Owens, Jackson; Sixth District, Mrs. H. Lowry Rush, Meridian; Eighth District, Mrs. Lucian Gaudet, Natchez; Ninth District, Mrs. R. C. Eley, Moss Point.

MRS. W. R. BETHEA ELECTED HEAD OF CENTRAL MEDICAL AUXILIARY

Mrs. W. R. Bethea was elected president of the Woman's Auxiliary to the Central Medical Society when the group was entertained March 7 in the home of Mrs. George E. Adkins.

Mrs. J. T. Weeks was named vice-president to serve with Mrs. Bethea; Mrs. Temple Moore, secretary; Mrs. I. C. Huggins, treasurer; Mrs. John Harter, historian; and Mrs. W. C. Thompson, parliamentarian.

Mrs. J. E. Noll gave an interesting report on the activities of the New York State Medical Auxiliary, of which she is a past president, and Mrs. Temple Ainsworth presented the scheduled program of the state meeting to be held in May.

Hostesses with Mrs. Adkins, and serving refreshments to the group were Mrs. Adkins' sister, Mrs. List, Mrs. Tom Blake, Mrs. Adna Wilde, Mrs. J. A. Milne, Mrs. Ewing Gordin, Mrs. L. C. Herrington and Mrs. N. C. House.

Those present were Mrs. John A. Gallogly, Mrs. H. C. Ricks, Mrs. George E. Riley, Mrs. Robin Harris, Mrs. Walton Lipscomb, Mrs. Tom Blake, Mrs. William G. Hollister, Mrs. A. L. Gray, Mrs. H. F. Magee, Mrs. A. C. Hewes, Mrs. Ewing Gordin, Mrs. John Harter, Mrs. Ben Walker, Mrs. I. C. Huggins, Mrs. John B. Howell, Jr., Mr. J. P. Wall, Mrs. Hardie Hays, Mrs. C. H. Denser, Mrs. C. F. Yates, Mrs. Norton McKenzie, Mrs. W. C. Thompson, Mrs. Robert B. Price, Mrs. Carter O'Ferrall, Mrs. L. L. McDougal, Mrs. T. M. Moore, Mrs. Adna Wilde, Mrs. N. C. Knight, Mrs. J. O. Segura, Mrs. Temple Ainsworth, Mrs. N. C. Rouse, Mrs. J. A. Milne, Mrs. Wayne Ritter, Mrs. T. E. Wilson, Mrs. P. R. Greaves, Mrs. Sam F. Parker and Mrs. J. E. Noll.

MRS. WALKER HYGEIA CHAIRMAN

The resignation of Mrs. R. B. Caldwell, Baldwyn, state Hygeia chairman, was accepted with regret, illness and sorrow in the family preventing her from going on with the work. Mrs. B. N. Walker, 941 Robinson St., Jackson, has been appointed to fill her unexpired term, Mrs. H. C. Ricks, president has announced.

Plans are underway for the entertainment of the Mississippi State Medical in May. Mrs. Eben Carey, president of the Woman's Auxiliary to the A.M.A. has been invited to be the guest speaker at the annual luncheon on May 10. It will be a great inspiration to have Mrs. Carey, and auxiliary members are looking forward to her message with anticipation.

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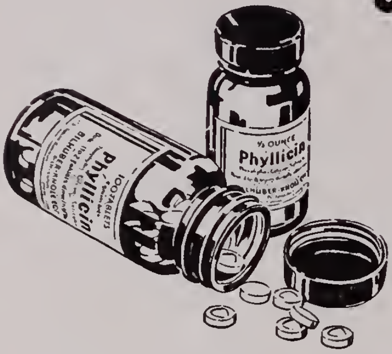
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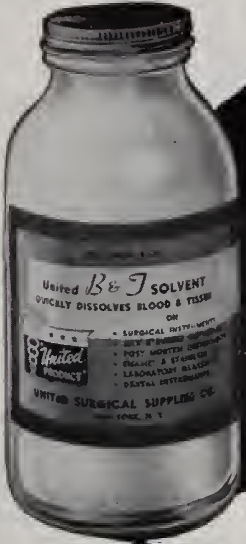

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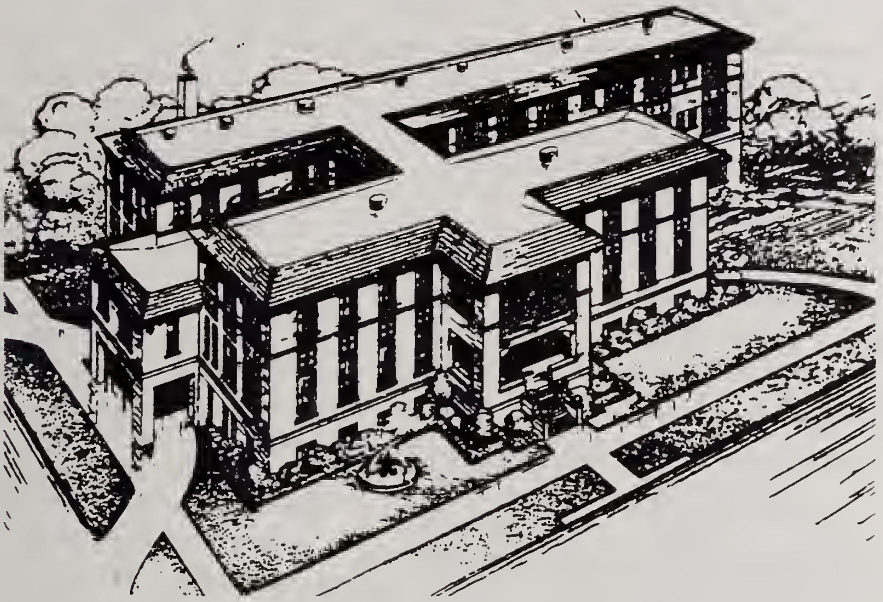

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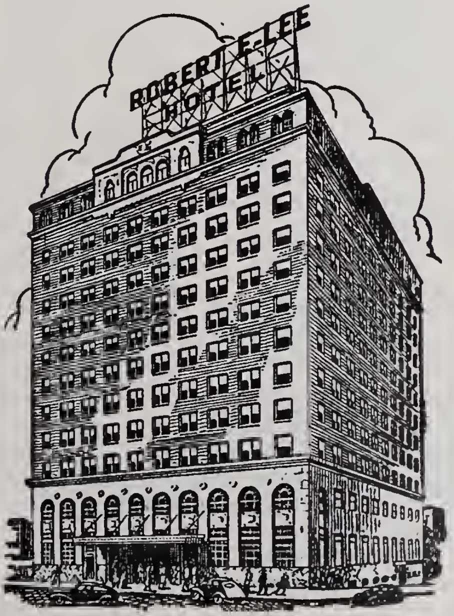

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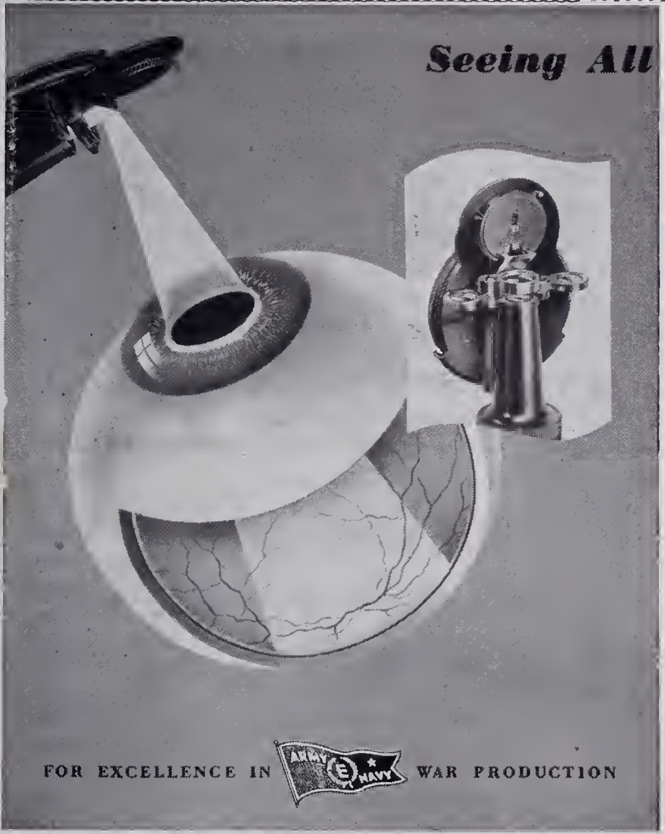

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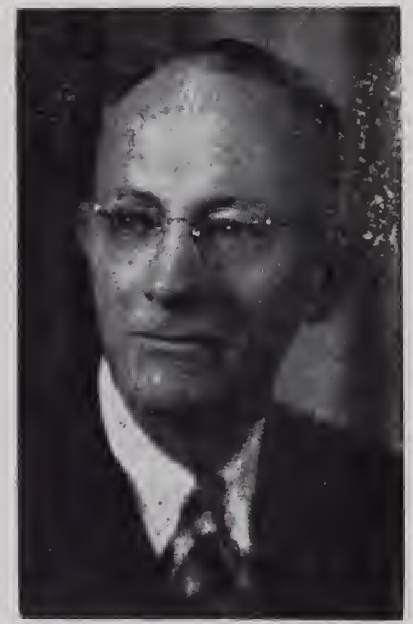
The Mississippi Doctor

VOL. 21 BOONEVILLE, MISSISSIPPI, APRIL, 1944 NO. 11



E. LEROY WILKINS

Clarksdale, Miss.

President of the Mississippi State Medical Association, which holds its annual session in Jackson at the Robert E. Lee Hotel, May 9 and 10.

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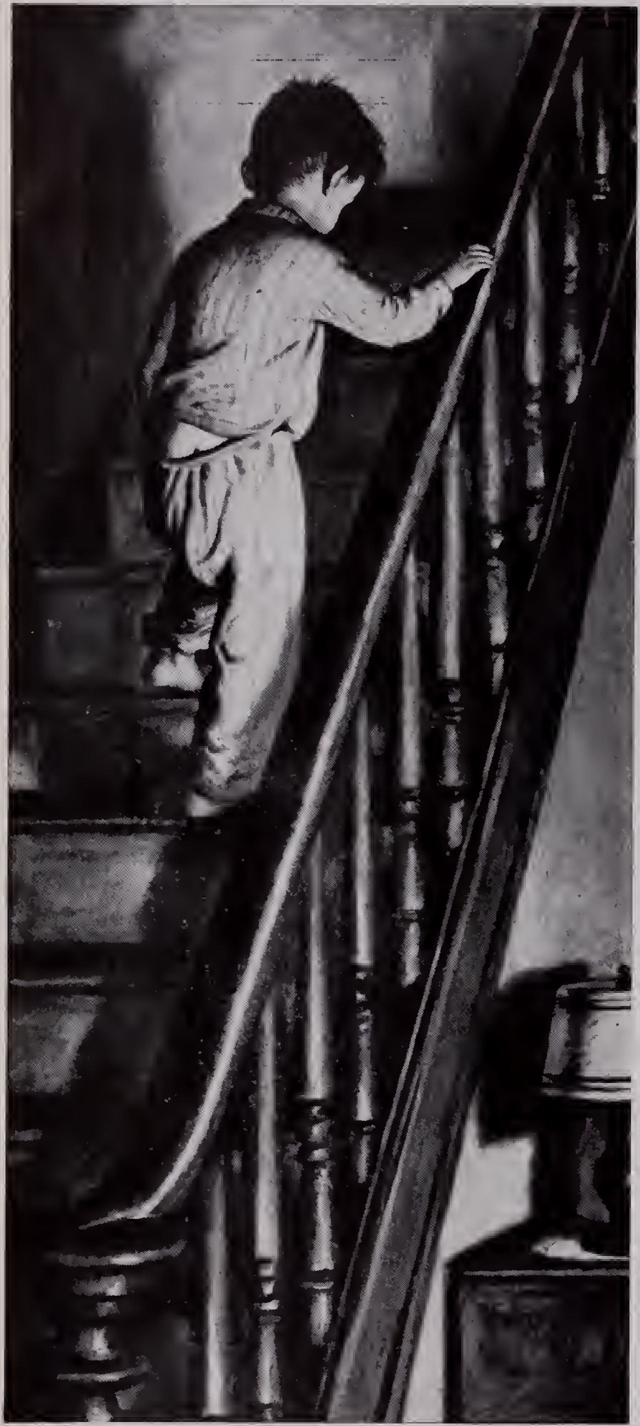

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★ ★ ★

Poor little guy. We—all of us—wish there were something we could do. Perhaps there is. Why shouldn't it be this?

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★ ★ ★

You, son, won't read these words, and if you did, they wouldn't mean much to you now. But your father's friends—known and unknown—are making you a promise, just the same.

You may never hear it from their lips. But if you were older you would read it in their faces—recognize it in their spirit. They are determined to keep America free. To keep it a land in which government is the servant, not the master of the people. To keep it the kind of America your Dad wanted to preserve—for you.

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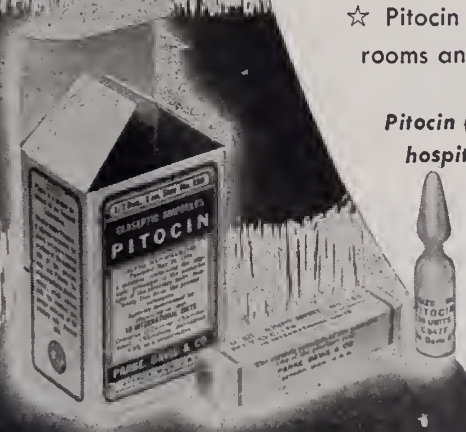

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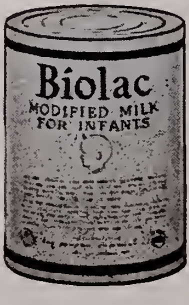

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The Mississippi Doctor

Published monthly at Booneville, Mississippi. Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870.

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*WOLDMAN, E. E., and POLAN, C. G.: The Value of Colloidal Aluminum Hydroxide in the Treatment of Peptic Ulcer; A Review of 407 Consecutive Cases, Am. J. M. Sc. *198:* 155-164 (Aug.) 1939.

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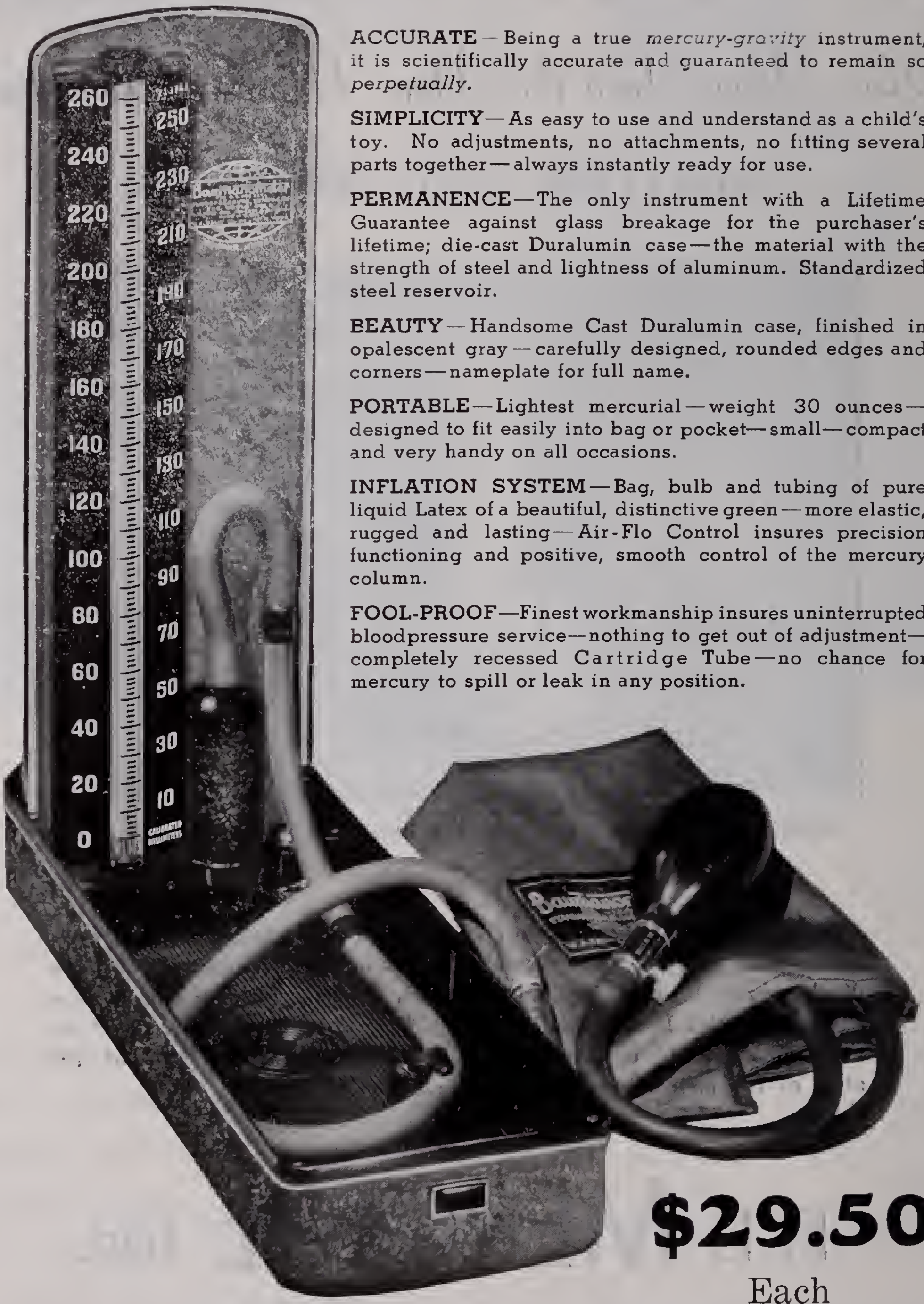

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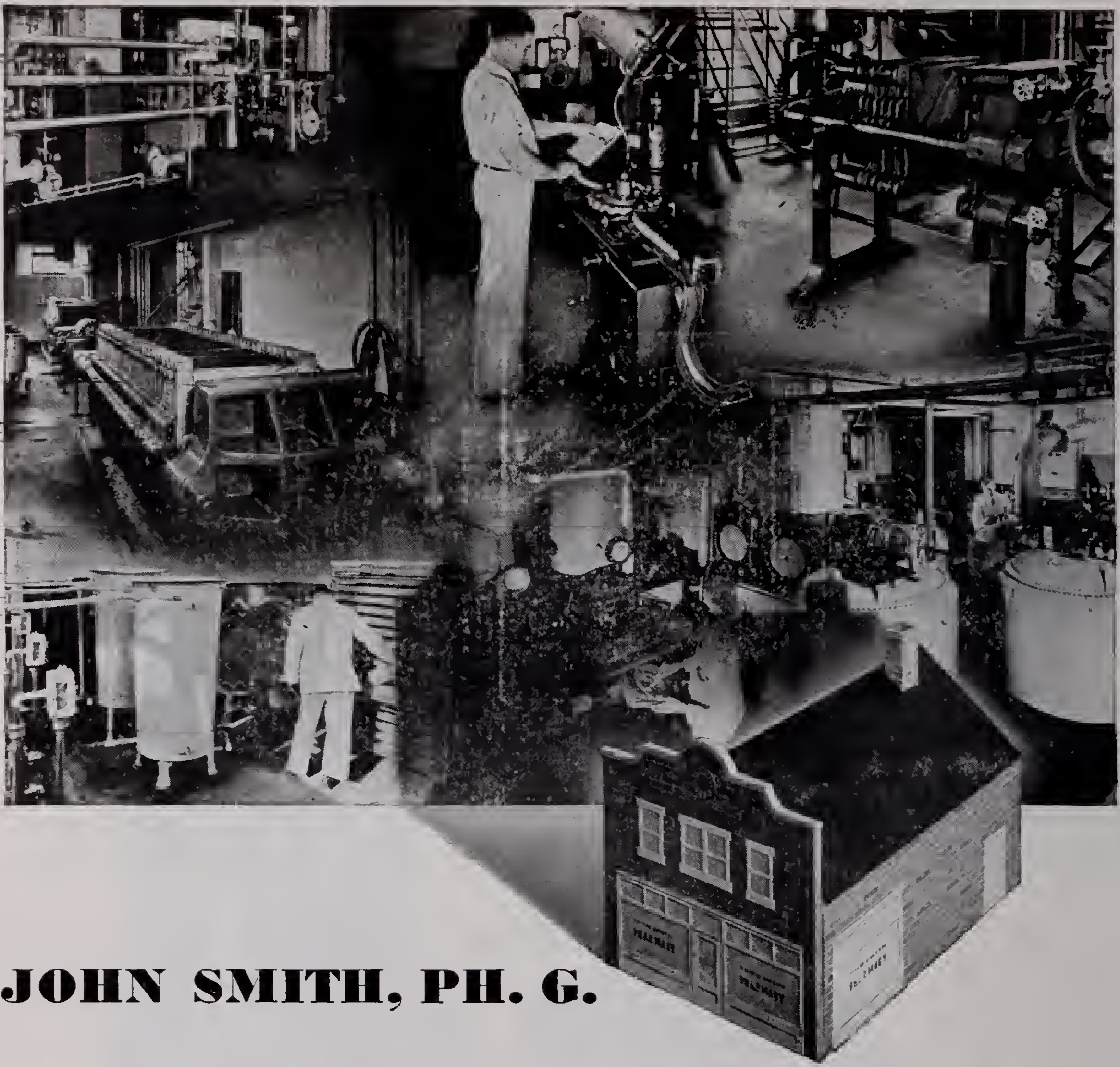

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Remarks on the Care of Surgical Patients

JOHN LUCAS McGEHEE, M.D.
Memphis, Tenn.

SURGICAL patients can be divided into two great groups: electives and emergencies. There are general principles applicable, with modifications, to both groups. First, let us consider the electives.

I

Here we have the opportunity of carrying out preoperative care at its best. There is no need for haste in this group; there is time for study of the patient, not only as a surgical problem, but as an individual. We can go into his background, his heredity and his personal history from childhood. This study may bring out facts of considerable, if not vital, importance.

There are many factors to be taken into consideration, not only in making a diagnosis, but, just as important, in evaluation of the patient's resources, both physical and psychological. People vary greatly in their general makeup and their reactions, physical and mental, to situations, disease and treatment. All of these things have a great bearing upon whether or not any one individual may be a good surgical risk.

Adequate preoperative treatment, then, will depend upon our knowing all we can about a patient so that his own particular needs may be met, his particular deficiencies supplied. All of us have had patients tell us that "Old Doc So-and-So knew my constitution," and we have smiled indulgently, giving little thought to the deep significance of "knowing a patient's constitution." While the "Old Doc" did not have a microscope, a hemocytometer, a sphygmomanometer or other instruments of precision, or the "little cutie" dignified by the name of "technologist" at his beck and call, all of which we moderns think are indispensable to the practice of the healing art, the "Old Doc" did know all about the patient and his family. He knew their background, their stock, how they lived and how they reacted in health and disease and he knew pretty well what they could stand.

Today, many of us don't even take time to get acquainted with our surgical patients, either before or after operation; we diagnose, or try to diagnose, their "case," treat it according to generally accepted principles, and that is that.

I should like to urge a more leisurely and thorough study of our patients as people, as individuals with definite peculiarities, problems and worries. It is only in this way we can hope to estimate their individual needs and by so doing properly prepare them for operation. It is not sufficient to tell the patient what his trouble is and that he has to have an operation. Most people want to know a lot more than that and are entitled to know more; of course there are those who may not care to go into details and are quite willing to leave it all to their doctor. In general, however, it is wise to give the patient some idea of his condition, his disease, what it is doing to him and what we expect to accomplish. This does not mean going into a lot of technical details in which most laymen are not interested and could not understand if they were. Most patients will undergo an operation in a far better state of mind, however, if some things about which they have wondered, or vaguely dreaded, are made clear beforehand. They may overestimate the danger facing them, the amount of pain they will suffer and a lot of "little" things, which are "big" to them. We can do a lot to rob the operation of much of its horror by a patient, calm, reassuring talk.

Then, too, it is well to explain to them the need for and the meaning of the diagnostic procedures to be gone through beforehand. Some people think they are being over-studied or experimented upon, and resent it. If they understand the reason for some of the physical preparation, they accept that with better grace also. The psychological preoperative care begins when they enter the hospital and a kind, tactful, sympathetic attention by nurses and attendants can do a great deal toward giving it a good start. We all know perfectly well that a patient going under operation free from worry and fear with faith, hope and full of confidence, has a running start over patients less well prepared. Not only is the mortality less, but the convalescence is smoother and the recovery quicker and more complete.

Now when we come to the physical examination and immediate preoperative preparation, we all are a bit more careful but here, too, there is room for improvement. Too often we are apt to focus our attention too narrowly on the local lesion and not make as general a survey of the patient as a whole as we should. A patient wth a lump in his neck may also have a carcinoma of the lung. A patient suffering from gastric hemorrhage may also have a splenomegaly. A woman suffering with signs of renal colic may also have a tubal pregnancy, etc., etc., etc. *Too many patients are admitted to the hospital one afternoon and operated upon the next morning.*

Adequate preoperative care, then, presupposes a thorough and detailed investigation of the patient: This means a complete and searching history, a study of his physical condition, including laboratory and x-ray where indicated. Then, and not until then, are we in a position to prepare the patient for operation.

Such an investigation will give us a pretty good idea whether the patient is a good operative risk or not. If there are handicaps, we at least know what they are and should take steps to deal with them. In some cases it is the disease for which the operation is to be done that has so affected their general condition as to add greatly to the risk: as acute appendicitis with perforation and peritonitis. In others there is some co-existing malady that provides the handicap: as nephritis, hemophilia or myocarditis. In either case we must recognize the fact that we are dealing with a handicapped patient and plan the preoperative preparation and at times even modify the operating procedure accordingly.

We may, for practical purposes, divide our prospective operative patients into three groups: good risks, moderately handicapped and poor risks.

GOOD RISKS

A patient in a reasonably good state of health, without any organic disease other than the one for which he is to be treated, may not require a long or elaborate preparation, particularly if his disease has not greatly affected his general condition adversely. The principle thing in this group is to see that he has enough time to get a good rest and store up sufficient carbohydrates, proteins, water and vitamins to tide him over the immediate postoperative period.

THE MODERATELY HANDICAPPED

In this group I should place those patients who have no organic disease but, for one reason or another, could not be called "first-class risks", i. e., *infants, the aged, the obese, the undernourished* and *those of the asthenic type.*

Infants, because of their prematurity, nutritional problems and lack of resistance to infection and trauma, are certainly not good risks and demand meticulous care and caution.

The aged, because of the wear and tear of a long life, the degenerative changes which time tends to produce, and their susceptibility to respiratory infections, are entitled to special care and safeguards.

The obese, because they take anesthetics badly, stand operations poorly, are prone to adynamic ileus after abdominal section and their tissues heal slowly. Grossly overweight patients should, when possible, be put on a reducing diet until they reach somewhere near normal limits before an elective operation is performed.

The undernourished, not just thin people who may be well-nourished, but the malnourished, the underprivileged group, whose diet has been inadequate and whose environment unhygienic, the victims of avitaminosis, anemia, present a general condition that is poor and a morale poorer. Rest for these weary ones, with a high caloric, well-balanced diet, fresh air and sunshine and a more cheerful, optimistic environment with tonics, vitamins, etc., will work wonders in converting this group into better surgical risks.

The asthenic type is a definite physical and psychological type. We all get to recognize them sooner or later. They are thin, flat-chested, weak, apathetic, pessimistic individuals with a multiplicity of complaints and a minimum of physical findings. They have been called "God-forsaken creatures." The women have headaches, backaches, dysmenorrhea and halitosis, and the men have dyspepsia, constipation and piles. They don't like anything, even if it is good, and the best surgical result is bad. They have unstable nervous systems and are of the introvert group. I do not know how to make satisfactory surgical patients out of this type: the best treatment, probably, is a combination of the build-up used in the undernourished, plus psychotherapy. Their convalescence is invariably slow and the end result of operation unsatisfactory to all concerned.

Poor Risks

Into this group go many grades, beginning with the moderately handicapped and going on to those in whom an elective operation is positively, without question, contraindicated. Of course the transition from one to the other takes us through a lot of borderline cases and there will always be a difference of opinion in selecting patients out of the various groups.

There are many factors which will influence one in making the decision of operability and in evaluating the risk, as the skill and experience of the surgeon and his assistants, as well as the facilities at their disposal. "To do or not to do?" In some cases the answer is easy—in others, the surgeon often finds himself between Scylla and Charybdis. It would seem that he will be dammed if he does and if he does not. Such situations call for the most precise decisions, based on experience and diagnostic acumen.

If the risk is rendered poor because of the disease for which the patient seeks relief and will remain more or less so until the cause is removed, we must seek to get the patient in the best possible condition under the circumstances and then take the risk. Masterly inactivity gets a patient nowhere but to the grave.

If, on the other hand, the risk is rendered poor because of some co-existing disease, naturally that phase should be treated first and, when we have done about all we can in these cases and apparently the optimal time has arrived, we must then proceed with the more immediate preoperative preparation, assuming the risk feeling that we are giving the patient the best chance for recovery.

In the case of these bad risk cases, the surgeon will realize the truth of the saying, "Nothing succeeds but success." If his efforts are crowned with success, he will be acclaimed a great surgeon by the patient, the patient's family and friends, the ministry and the lay press but, on the other hand, if his efforts result in failure, he may expect to be acclaimed as a heartless butcher and a charlatan, and a "jury of his peers" may, influenced by a rabble-rousing shyster, see fit to condemn him and put a monetary price on his misdeeds and errors of judgment and a free, but uninformed, press will advertise him to the world as an incompetent and a malicious, avaricious surgeon. We play for high stakes and it's a great game if we don't weaken. Therefore, in the day of success be modest and humble and on the day of adversity be staunch, remembering that one day you are God's gift to suffering humanity and the next day you are a bum. "So runs the world away."

Having evaluated the risk and considered well the chances of success or failure, we decide to take the chance: We proceed to the immediate.

Preoperative Preparation

Here again we may divide this into two phase, the general and the local.

The general preoperative preparation calls for attention to the patient's mental and psychological state on the eve of what, to him, is the most serious and important event of his life. A cheerful, optimistic visit by the surgeon on the night before the morning of operation will do much to encourage the patient and make him feel that you, in whom he has put his trust, really has his interests at heart. Along this same line, try to protect him from the upsetting visits of his well-meaning friends, the most of whom are Job's comforters.

Very recently a wise old patient, after a very trying day with visitors, said to me, "Doctor, I now have a new prayer." I said, "What is it, Sir?" He replied, "It's this: Oh Lord, protect me from my friends—I can take care of my enemies myself."

The Biblical injunction "to visit the sick" is carried too far for the good of the patient by the laity, especially by the feminine portion of it, and by the clergy. Now do not misunderstand me. A visit by an understanding, sympathetic clergyman, under proper conditions, after consultation with the surgeon to acquaint him with all the facts, may prove to be one of the most comforting things you can do for the distraught and emotionally disturbed patient, and I advocate such visits as these; but I am unalterably opposed to the unsolicited, mass-production ministerial visits on a certain day of the week by well-meaning, ignorant preachers who have no knowledge of the individual patient's condition, physical or mental, and insist on doing it, willy-nilly.

An extreme illustration of this type of

ministerial visit occurred recently in one of our hospitals. At 8 A.M. the patient had undergone a major surgical abdominal operation. At about 4 P.M. a gentleman of the cloth, accompanied by nine sisters, entered her room (this, unfortunately, happened to be the day of the week upon which he performed this ministerial chore). The patient was quietly sleeping under the influence of narcotics, not having completely reacted from the operation and anesthetic. This pious crowd arranged themselves around the patient's bed with the parson at the foot. With a basso-profundo, aided and abetted by the nine sisters, he raised the tune, *Asleep in Jesus*. The startled patient awoke with a bang, sat up in bed, joined in the singing and then collapsed, going into profound shock. The parson and his sisters withdrew in very dignified manner, well pleased at the result of their ministrations.

After recovery from the shock and before leaving the hospital, the patient, who was possessed of a keen sense of humor, told me that, upon being awakened by the singing, her first impression was that she had died and gone to Heaven. Soon she realized that the singing was not of the quality she had always expected to hear in Heaven and next she got a good view of the male angel at the foot of her bed and the female angels around him and then—she passed out.

I have seen disastrous results follow friendly, well-meaning, ill-timed visits. Particularly is this true in patients suffering with hyperthyroidism. In this class of patients, a Job's comforter can undo in a few minutes the accomplishments of weeks. I am convinced that most surgical patients would be better off if they had no visitors from the time they enter the hospital until convalescence is well established.

On the evening before operation some form of sedation is useful to induce sleep, promote physical and mental rest and banish dread and anxiety. An ideal state in which to arrive at the operating room is one of mild disorientation. It assures a smooth anesthetic and a more prompt recovery.

The general physical preoperative preparation will include those measures which have been found to be useful in supplying certain postoperative needs associated with particular operations, as for instance, the parenteral administration of water, glucose and sodium chloride; glucose in particular, thus storing up a high glycogenic reserve in patients undergoing operations on the biliary tract or thyrotoxic patients undergoing thyroidectomies; or again, the administration of blood in those patients where a greater than usual sudden blood loss is anticipated, as in splenectomy; or again, the administration of sodium sulfasuxidine for the purpose of sterilizing the gut and reducing the bacterial flora in those patients undergoing operations on the colon, and so on, ad infinitum.

A low cleansing enema the night before is advisable to empty the lower colon and precent postoperative fecal impaction.

So much for the general preoperative preparation. To particularize further would be too time consuming and lead us too far afield.

LOCAL PREPARATION

In recent years there has been a general simplification in the preparation of the field of operation. In general, we rely more now upon mechanical cleansing and less upon attempts at chemical sterilization. We have found that most skin organisms can be removed by scrubbing with soap and water, provided we take long enough. Soap, water and "elbow grease" is the *sine quo non* after shaving, followed by removal of grease with benzine or ether, and then the application of 70% alcohol, or one of the tinted germicides, if one prefers it, and the field of operation covered with a sterile dressing is sufficient protection against skin infection. Of course it is impossible absolutely to sterilize the skin, but by the above method we remove most of the organisms and reduce the chance of infection to the minimum.

THE ANESTHETIC

The multiplicity of anesthetic agents at the present day is prima facia evidence that no one agent is entirely satisfactory. One thing, however, I am certain of: and that is the rule that *the anesthetic should be selected for the patient and not the patient for the anesthetic.* In selecting the anesthetic, a discriminating judgment must be brought into play. The consideration of the skill and ability of the anesthetist, the emotional status of the patient, the age of the patient, the physical status of the patient (i. e., good risk, handicapped or poor risk), the particular pathology with which the patient is afflicted and the extent and duration of the operation must be the deciding factors in this decision.

As illustration, the relative ability of the physician anesthetist, the nurse anesthetist, the inexperienced medical student or, in an emergency, the lay neighbor or even the negro cook; or again, the emotional status of the temperamental, hysterical neurotic female versus the phlegmatic moronic male; or again, the infant and the aged versus youth and vigorous maturity; again, the thyrotoxic state with its anoxemia versus a normal metabolism and, finally, the operation requiring a half hour for its performance versus the operation requiring two and a half hours—all of these factors must be carefully weighed in the selection of the anesthetic if the surgeon is to be successful in avoiding the pitfalls and accidents of anesthesia.

Let me emphasize, *be not wedded to any particular anesthetic agent or method of anesthesia. Select the anesthetic for the patient and not the patient for the anesthetic.*

The Operation

Sharp instruments, small instruments, gentleness in the handling of tissues, a minimum of trauma, complete hemostasis, asepticity, competent assistants and speed commensurate with careful technique—not speed for speed's sake—are the prerequisites for a low mortality, a low morbidity and an easy conscience.

II

Let us now consider the second great group, emergencies.

The cases come to us with a ready-made lesion, demanding surgical treatment and the time element is of great importance. One must decide quickly what the ideal treatment should be in this particular case and then decide whether or not the patient's condition is good enough to stand it. If the decision is "not good enough," we then have one of two alternatives: 1) to modify the procedure to the patient's condition; as for example, the exteriorization of a strangulated loop of intestine instead of resection and anastomosis, or 2) to build up the patient to a higher level; as for example, blood transfusion in shock due to hemorrhage.

Although the time element is important and the condition urgent, we should take enough time to assure the patient a reasonable margin of safety. If he won't live that long, he would probably not live much longer with immediate operation.

Morphine in adequate amounts to relieve pain and dull his sensorium, thus banishing fear and anxiety and preventing psychic shock, while at the same time controlling surgical shock and dehydration by transfusion of whole blood or plasma, are the best means at our disposal for giving a surgical emergency his best chance of recovery and thus converting an emergency into an elective case; as for example, an acute intestinal obstruction inoperable at time of admission, converted into an elective case by the modified Ochsner treatment.

Postoperative Care

Regarding postoperative care, the amount a patient will need depends to a great extent upon the efficiency of the preoperative care and the operative procedures and the manner of their execution. Many of our patients' distressing postoperative symptoms can be entirely prevented or greatly lessened by foresight.

Pain, nausea and vomiting, distention, thirst are the common postoperative distressing symptoms.

Pain may be minimized in several ways: the gentle handling of tissues at the time of operation; suturing without undue tension; soft, abundant dressings—snug, but not too tight, may all do a great deal in minimizing the amount of pain. However, if pain is present, it should be banished by adequate doses of morphine. It is a mistake to allow a patient, even if he is willing, to suffer for any length of time; it wears him out and prolongs convalescence.

Nausea and vomiting is a very distressing postoperative symptom and, if allowed to continue long enough, can bring about a fatal termination. It can be anticipated and prevented, or greatly reduced, by adequate preoperative preparation, as the procurement of a good water balance, appropriately selected, well given anesthetic and a non-traumatizing operation; however, when nausea and vomiting appears, it should be actively combatted by the administration of water, sodium chloride, glucose and plasma parenterally associated with continuous suction siphonage with the indwelling nasal tube. The patient must be kept in a physiological status during the existence of nausea and vomiting, or else a state of dechlorination dehydration and hypoproteinemia will supervene with a fatal result. As soon as practicable, get the patient on solid food.

Distention results from inadequate preoperative preparation, exposure and rough handling of intestines at time of operation. It should be combatted early, just as soon as it begins to appear, by continuous suction siphonage producing deflation and administration of excitomotors, such as pitressin, prostigmin or esserine and the application of dry heat.

Just here a word about enemas. They should be used with great caution, if at all. In my experience, they do nothing but exhaust the patient, stimulate reverse peristalsis, as evidenced by vomiting, and increase distention. As for the indwelling rectal tube, it only adds to the patient's discomfort and gives no relief for distention.

It does seem to me that there is nothing we do to patients that better illustrates the saying, "It is more blessed to give than receive," than the administration of enemas. An old lady who complained to me about her enemas, when I quoted this Biblical saying to her, remarked: "Well, there is no blessing connected with enemas unless I bless you out for giving them to me."

As for the so-called flatus enemas, they are an abomination. Made up of all sorts of ingredients, palatable and unpalatable, such as milk and molasses, alum and salts, turpentine and asafetida, etc., ad nauseatum, they have no place in the relief of distention.

Thirst is a postoperative symptom which may merely mean a dry mouth or it may mean tissue need for fluids, an impending or already existing dehydration. It may mean blood loss—concealed or otherwise.

The necessity for supplying sufficient fluids before operation has been stressed. Now a caution against overheating with, as a consequence, excessive sweating during and after operation, producing excessive water loss. Think how many times you have seen a patient, after two hours on an operating table, taken—dripping wet, the sweat pouring from him in tiny rivulets—wrapped in heavy, hot blankets and put into a bed among hot water bottles and allowed to sweat until his tongue is as dry as a parrot's. Is this a sensible method of maintaining water balance? Yet you know it is common practice. There is as much sense in it as pouring water into a pitcher with a hole in the bottom and expecting it to remain full.

The underestimation of our ordinary fluid needs is a common fault. An equally common fault is the failure to recognize the extra requirements in times of stress and strain.

It has been shown by Coller and his coworkers, that the daily fluid loss is roughly 1,000 to 1,500 cc. from skin and lungs, 1,000 to 1,500 cc. through the urinary tract—approximately 4,000 cc. daily. It is well to remember the fluid loss through the urine represents the overflow of surplus of water after the body needs have been satisfied. A daily output of urine, then, of from 1,000 to 1,500 cc. is practical evidence that the body tissue fluid needs are supplied. Thus the great practical importance of daily measurements of urine excreted is evident, for the amount is a yardstick by which the surgeon can estimate the question of water balance and avoid too little or too much. Whenever the fluid loss is greater than the fluid intake, it is evidenced by a diminishing output of urine.

The question of fluids postoperatively is, then, an important one and should be kept in mind. Fluids must be given freely to postoperative patients. The best way, of course, is by mouth if possible, the next best is parenterally, and next best, per rectum. The amount of fluid to be given daily can be roughly, but sufficiently accurately, determined by knowing the daily excretion of urine. We not only have a choice of routes but we have also a choice of fluids: water, salt solution, glucose solution, Ringer's solution, etc. Each has its indications and these should determine the choice.

Where the need for fluids is great, as in those patients who are markedly dehydrated and need nourishment, the continuous administration of glucose-saline solutions or amino-acid mixtures by the continuous intravenous drip method is very satisfactory. A gold cannula (the Herndon type) inserted in a vein can remain there for days without blocking or causing the least irritation or discomfort. The rate of flow of these continuous solutions should range from 2 to 4 cc. per minute, thus giving from 2800 cc. to 5600 cc. each twenty-four hours.

Postoperative Urinary Retention is a very common cause of postoperative discomfort and, frequently, because of repeated catheterizations, leads to urinary infection, which in itself is a very humiliating annoyance to the surgeon because, naturally, this is a fruitful source of dissatisfaction on the part of the patient in an otherwise satisfactory convalescence.

I must confess that I have never been able satisfactorily to combat it or prevent it. I have tried all methods suggested, with varying degrees of success, but no method has proved entirely satisfactory in my hands.

Even though patients void, be sure there is no residual urine. Incomplete emptying of the bladder is a progressive affair and will lead to marked overdistention of the bladder. It is not uncommon to find on the fourth or fifth postoperative day a residual urine of sixteen ounces in a patient whom the nurse has reported as having voided regularly and frequently. The passage of one or two ounces of urine at one- or two-hour intervals is strongly suggestive of retention which is easily demonstrated by the introduction of the catheter immediately after voluntary urination. This retention and overdistention must be promptly relieved by the self-retaining catheter of the Foley type and the use of urinary antiseptics to prevent the almost inevitable infection.

Postoperative Complications are many, but the most frequent are shock and hemorrhage, respiratory complications, infections, thrombosis and embolism.

Shock is a condition of peripheral circulatory failure, the exact nature of which is poorly understood. It is almost impossible to form a definition but, as Cannon states, "Definition is not a prime requisite in such a complex as shock." It is, however, a definite clinical syndrome and, in its manifestations, easily recognized.

Time does not permit any detailed discussion of shock here, but at this time let me remind you that the best means of preventing shock is to be prepared for its prompt and vigorous treatment at the earliest possible moment after its appearance. The longer its active treatment is postponed, the less apt is the surgeon to be successful in its treatment.

It is well known that where shock has existed for eighteen or twenty hours, a fatal issue is inevitable. The best treatment for shock, in elective cases, is its prophylaxis: the prevention of pain, trauma, hemorrhage, loss of body fluids, etc. In emergencies, where shock is an established fact, the administration of blood (where shock is due to hemorrhage), the administration of plasma, the application of external heat, relief of pain by morphine, the administration of oxygen are the best measures and last, but not least, do nothing to add to the shock already present. Do not add insult to injury by operating upon a patient in shock—here nihilism is true wisdom.

Hemorrhage. Primary hemorrhage occurs in the first forty-eight hours postoperatively and secondary hemorrhage occurs several days later.

We are warned by the cardinal signs and symptoms. The treatment is obviously the control of bleeding whatever measures are indicated. It is humiliating to have to re-open a wound to control bleeding, but if the exigencies of the case demand it, do not hesitate.

Respiratory complications are pulmonary atelectasis or collapse; bronchitis and pneumonia.

The frequency of these complications has greatly decreased since more attention has been given to their prevention. In brief, the measures consist of skillful anesthesia, adequate pulmonary ventilation and frequent changes in the patient's position in bed.

Pulmonary collapse is due to bronchial obstruction by secretions. It is induced by hypoventilation and may be prevented or cured by preventing this hypoventilation. It is good routine postoperative treatment to administer CO_2O inhalations six or eight per hour, for six to eight hours to ventilate thoroughly the lungs by forced breathing.

Excessive use of sedatives, completely abolishing the cough reflex, probably plays a part as a causative factor. The majority of cases will be relieved by change in position (the affected side up) CO_2O inhalations and coughing; if not, bronchoscopy and sucking out the bronchial plug may have to be resorted to. The prompt recovery of desperately sick patients with this complication requiring bronchoscopy is most gratifying.

Infections. The prevention of wound infection since the time of Lister has been one of the surgeon's constant and ever-present problems. With improvements in surgical technique due to the recognizing of sources of contamination and, more recently, with the advent of sulfanomides, our worries on this score have markedly decreased; however, eternal vigilance is the price of asepticity.

When infection does occur in a wound, it should be promptly opened and drained: hopeful, wishful thinking only postpones the evil day.

Thrombosis and embolism are prone to occur late in the postoperative period of convalescence. The predisposing factors are increased coagulability of the blood, immobilization and infection. This complication is more common in abdominal operations, particularly gynecological cases where the pelvis veins may be injured or ligated.

As a prophylactic, heparin given intravenously has been advocated and several series of cases with controls have been published attesting to its value.

This preparation is made by extracting liver and lung tissue and has powerful anti-coagulant qualities. It is administered in 5% solution, 50 to 75 mg. of heparin per dose, giving four single injections. Crawford and Jorpes reported a series of cases in which 250 to 350 mg. were given over a period of from five to ten days. In 350 cases so treated, there were no thrombo-embolic complications. In a control group of 1,111 similar cases, untreated with heparin, 9% had such complications.

When this complication occurs its treatment by blocking the regional sympathetics after the method of Ochsner is indicated. My limited experience with the method has been very satisfactory.

Finally, one common defect in our postoperative treatment is that it ends too soon. Patients are apt to think that right after an operation, they will be well: surgeons are prone to consider their responsibilities at an end when the patient is discharged from the hospital. Both are wrong to a certain extent; a complete cure often requires a more or less extended time for readjustment and convalescence, and a close follow-up until that point has been reached.

The practice of surgery does not consist solely of the wielding of knives, the hacking with chisels and saws, and the stitching of flesh; if it did, it would only be a mechanical trade of a low and distasteful mechanical order. May we be delivered from that conception and him who practices it. However, when considered from the physiological and psychological point of view, in spite of its mutilating manipulations, it is elevated to the status of a science and becomes, as so beautifully expressed by the late Dr. William D. Haggard, "the queen of the arts."

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Buy War Bonds Today!

The Medical Problem in the Post-War World*

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WE ALL recognize that the world as a whole is inevitably going to change with the termination of this great war. Nothing is static in nature. Change is the essence of time. We may all be sure that following such a generalized social convulsion as this war, which has touched even the hidden corners of this world and involved so many individual lives, the whole structure of our society, of which our profession is an integral part, must necessarily be altered. Certainly we all will agree that individuals will change as the result of this war. Since the individual is the unit with which we, as physicians, deal, we must be prepared to face new problems in the practice of our profession.

I do not want to be classified as one of the gay optimists who believe that the war is practically won. I think I know from my experience, particularly in the Pacific, how big a job lies ahead; but, if our leaders find that we have reached that point where we can predict eventual victory and where we must realistically face the post-war problems, then we, as doctors, should begin to think and prepare ourselves for some of the problems that we inevitably will face.

Very few of us will forget that afternoon when the radio flashed the news of the attack on Pearl Harbor. Those of you at home, as well as those of us in the service, will remember the day as not only the anniversary of the infamous attack by an enemy without honor, but the sharp turning point when we left behind the ease and harmony of a life to which we had become so pleasantly adjusted.

One of the first problems that everyone recognizes is that of proper care for our physically sick and wounded and those who have been disabled in the national effort. We are fortunate in that we have a functioning organization in the Veterans Administration, already experienced in the handling of cases of this kind. A nucleus of hospitals and rehabilitation centers that will be necessary already exists. The primary problem will be one of expansion to meet the requirement of this war.

In March of this year Congress passed an amendment to the regulations governing the Veterans Administration, qualifying all veterans of this war for medical service and care for all conditions, whether service-connected or not. These are the same privileges enjoyed now by all veterans of the last war. There will probably be more than ten million war veterans in this country when the Army is demobilized. With such a large segment of our population receiving medical care at the expense of the state, this simply means that a form of state medicine is practically upon us.

Now, I personally agree with most of those present that the personal doctor-patient relationship is a most important element in medical practice. As an Army psychiatrist, I can testify to the difficulty in establishing a satisfactory such relationship under a regimented system. I agree, too, that the high standards and progressive attitude of our profession have been due in large part to individual initiative. And, as my professional friends in New Zealand and Australia point out, the great danger is that any such system will subsidize mediocrity in the profession. But, in spite of all this, if we are to face the reality of the post-war world, we must recognize that state-subsidized medicine, for at least a large segment of our population, is here. And with this entering wedge, there are going to be increasing forces for its expansion. I am not going to suggest what attitude we should take, although I do believe that if there is to be central control of medicine, that control should rest in the hands of the profession itself. The principal point I want to make is that we must recognize the facts and develop an attitude and plan of action.

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Medicine has progressed far in the past twenty years. Military medicine particularly has made amazing progress. We can all quickly recognize that this progress has been almost miraculous when we realize that considerably more than 97 per cent of our wounded, alive twenty-four hours after injury, will survive. This is a great medical triumph, but, just as increased life expectancy, of which we are so justly proud, has introduced new problems leading to the new specialty of geriatrics, so will this success make for a greater need of rehabilitation and reconstruction of the physically handicapped than we have ever known. Many more of the wounded, who in other wars would have died, will now live with their handicaps.

It is an obvious duty of society and of our profession specifically, to administer the best possible care and retraining. A great deal of the problem will be surgical. The plastic surgeon, the orthopedic surgeon, and the neurosurgeon are going to bear the brunt of the reparative work. With the tremendous increase of problems of this type we can confidently look forward to a tremendous advance in reparative surgery in the next few years.

There is a psychological problem too that is important in rehabilitation; that is, these men will neither need nor want pity. We will certainly provide disability benefits in proper relation to the degree of disability, but what these men will want and what they will need is not the pity and support of the community, but rather a chance to develop new skills commensurate with their disabilities, that will allow them to re-assume a productive place in the social organization and to reëstablish the self-esteem that is important to every individual. The physically handicapped want pity least of all. Give them a chance and a skill to take even a limited place in society. As a rule, they will put forth more effort than those who are anatomically whole. Our greatest responsibility is to see that a broken spirit is not added to the handicap of a broken body.

On the question of disease, one of the most remarkable facts of our two-year participation in this war is that there has been no real world pandemic. One of the big reasons must be fortuitous circumstance, because there is not a great deal that even the most learned among us could suggest to halt an epidemic such as the influenza that plagued the world in 1917 and 1918. When we consider that our soldiers are serving in endemic areas of all the great human plagues, many of which are utterly foreign to our people and to which we have never had an opportunity to develop immunity, it is, in part, just luck that some great pandemic has not descended upon us.

However, the training our soldiers are receiving before going overseas, including the most rigorous physical régime that we have ever given to our armed forces, has resulted in all our men overseas being in the prime of physical condition, with high resistance levels characteristic of a sturdy physique. Advances in preventive medicine have made it possible for us to establish active immunities against many of the most fearsome diseases by means of inoculation and vaccination. Today troops going into areas where there is cholera, plague, typhus, yellow fever, and many other diseases that attack whole groups, can be immunized with preparations of proved potency. Another fact that is obvious to anyone in the field is the better quality of the army diet. While a soldier in a foxhole or in the jungle may get very tired of canned C-ration, nevertheless, it has been carefully enough balanced that it can not only calorically sustain life, but will supply those extra caloric dietary necessities so important in maintaining resistance to disease. Those of you who were in the last war and remember the long forced issues of "corned willie" or "goldfish" must realize that this is a big factor. Then, another point that I think we can take pride in is the quality of what we might call the medical "grand strategy" of our armed forces. Before operations are planned in any new territory, highly qualified men prepare instructions and recommendations to meet the diseases and medical problems peculiar to the new region. Plans are made, alongside our tactical plans, to anticipate and protect us against any large group of purely medical casualties. As an example, I am personally familiar with the great work being done by the Malaria Commission and the Dysentery Commission in the South Pacific. While these diseases still remain a big problem in any tropical area, tactical operations in this theatre would have been impossible without the close coördination of medical strategy with those of operations.

With ten million men returning from every cranny of the world, some of these diseases are sure to come back. This points out one of the big adjustments that we of the medical profession are going to have to make. We are going to have to broaden the basis of our practice of medicine and include in our differential diagnosis many conditions that previously have been curious names in a medical text. Madura foot and tsutsigamuchi fever will no longer be restricted to a small isolated area, but with the great migration of large bodies of men will become more universal. Consequently, they will be problems we must be prepared to face in our own communities. We know from our experience with the isolated communities of the South Seas that new diseases may assume frightening severity in a people that have had no opportunity to develop a basis of immunity, although in their community of origin, these diseases had come to be relatively innocuous. Therefore, we must be prepared to face greater epidemiological problems than we have ever known before in this country. One of the results of this war is certainly going to be a more intimate world community. Provincial diseases, just like provincial customs and ideas, will be largely a thing of the past.

One of the most important developments in medicine in this war and one that is going to have far-reaching influence on the kind of medical practice in the future, is the increasing recognition of the so-called psychosomatic group of illnesses. This group includes all those diseases in which there are physiologic and sometimes structural alterations in body function, resulting from what is primarily an emotional problem. It includes the gastric neuroses, mucous colitis, many cases of peptic ulcer, hypertension, cardiac neuroses, and the more malignant forms of allergy. We in army practice are learning every day that emotional factors are just as important as bacteria or neoplastic factors in the production of the disabilities that are sent to us for diagnosis and treatment. In my hospital overseas, tension disorders of the gastro-intestinal tract were second only to dysentery as cause for medical admission. It has been the same with the English, Australian, and New Zealand armies. There is indication that the German army has had similar experiences.

The general practioner has always known of the importance of understanding the individual's emotional life background in evaluating his symptoms. This new knowledge is sweeping the medical world as if it were a new discovery, when in reality it is merely the recognition of a factor that the real clinician has always known. This new attitude toward disease is recruiting disciples rapidly at the present time, and even the most scalpel-minded surgeons are being convinced of the importance of the evaluation of the emotional status of the patient in addition to their accepted, routine diagnostic methods. If the history of medicine is going to repeat itself, I shall certainly not be surprised to see psychosomatic medicine take its place alongside the other recognized specialized practices. There is importance for every one of us in the psychosomatic approach to disease. The days of the duality of mind and body are past in medical philosophy. We must, each one of us, regardless of his specialty, see and treat the patient as a whole, rather than that particular portion of his anatomy concerned with our speciality. It has been becoming increasingly clear that a nose and throat cannot exist outside of a human being and that to treat properly even the most localized illness we must see it in its proper relationship to the indvidual's whole life. Every physician is familiar with the cases, resistant to treatment, whose complaints and disability continue long after local pathology has helped. It is the patient that is sick and not the bone, nor the kidney, nor the lung, no matter how localized may be the pathology. If we save the part and neglect the whole, all our efforts must be in vain.

I cannot pass on without mentioning the recent work of Wolf Beaumont in explaining the physiology of the stomach. Their subject, Tom, like Alexis St. Martin, had a gastric fistula. But these two workers had the advantage of a thorough indoctrination in medical psychology. Consequently, a large part of their investigation was concerned with variations in the structure and function of the stomach as the result of emotional factors. Anger, anxiety, fear, quiet, and conflict were found to produce extreme variations in the physiological function of the stomach and, if prolonged, this disordered physiology resulted in structural pathology.

Their work has shown that the gastroenterologist who fails to recognize the importance of emotional factors in gastro-intestinal disease will miss more true diagnoses than he would if he were denied the use of modern x-ray study. This is important to everyone of us, no matter what his specialty. In the years to come, I believe those of us who do not take psychosomatic factors into account in our practice are going to be left behind in the surging progress of medicine.

One of the characteristics of this war has been the incidence of psychoneurotic diseases. This has been true in the rear training areas as well as in the combat war zones. There is no evidence, to my knowledge, that the major psychoses, dementia praecox and manic-depressive insanity, are increasing.

This relative increase in psychoneurotic over psychotic disease in psychiatric practice will most certainly lead to alteration in the specialty itself. Heretofore, most psychiatrists have been engaged in the care and treatment of the insane. Only a small proportion of psychiatric practice was concerned with the psychoneurotic, and that principally in a few larger cities. In the future I believe that out-patient psychiatry is going to be a big, and I hope fruitful, branch of medicine.

Why this sudden increase in psychoneurotic disease? A secondary but contributing factor is the character of modern war. Mechanization and modern military methods tax the ability and initiative of the individual soldier more than they have been taxed in any other war in history. Men no longer fight in solid phalanxes. The reassurance of the nearness of groups of friendly fellow soldiers is lacking. Two men in a foxhole on the flank in a jungle position are probably out of sight and hearing of their fellows, and on their initiative and their resourcefulness may rest the security of a position. Such demands on the lone individual must necessarily tax the resistances of the personality greater than those made when there is a large group of friendly faces close at hand.

A bigger factor is that psychiatric disease has become a fad or fashion. Certainly the medical profession is more aware of the psychiatric problem, and the public generally and our soldiers particularly, are hearing more of it every day. In the last twenty years we have seen psychiatry and psychiatrists romanticized in the novel and the drama. The neurotic personality has been brought to the attention of practically everyone in our society. Indeed, in the last few years, a book written to urge us to take pride in our neurotic maladjustments and eccentricities, has become a best-seller. The attention of everyone has been directed toward the distorted and eccentric in ourselves as well as in others. A great deal of value has been put on these variations from what has been the accepted norm.

Most of the evidence today indicates that psychoneurosis is a disease of faulty or arrested development, particularly in the earliest, most plastic years of childhood. As the result of this distorted development, the individual reaches chronological maturity, without the stable emotional resources necessary to adjust efficiently to the demands of adult life. Social factors inevitably influence developmental forces and patterns, and, since it is obvious that the last twenty-five years have been a time of great social change, let us look at some of the social factors involved.

For entirely too long a time a premium has been put on dependence. Self-reliance, strength, and adequacy have been first on his parents, then his school, then his labor union, then government subsidy, or social insurance. All these will protect the individual from the cradle to the grave from every threat except what the lawyers call "acts of God." I should not be surprised to see some type of legislation introduced to include even those threats to individual security. Now democracy can live only with an aggressive, striving individual as its unit. Thomas Jefferson knew this and said it repeatedly when the foundatons of our government were being laid down. Certainly, social security and government control of exploitation must continue, but we must not let our interest in security undermine the incentive for work and individual integrity. We must be sure that the rewards of profit and social approval accrue in direct proportion to ability and effort.

There are those who cynically see in this attitude of dependency that has been developing progressively in our people, evidence of decadence. Frankly, I do not believe it is true, but this small ulcer in our social structure can become malignant if we refuse to recognize and be guided by the facts in our future actions. During the mad twenties, the tormented thirties, all our philosophies revolved about the rights and privileges of the individual, but with never a thought for the obligations of the individual to the society that made these privileges possible. So-called modern educational methods have ignored the old-fashioned social concepts of duty and loyalty in favor of developing the individual expression of each of us. We are told that we must avoid anything that will inhibit the natural development of the individual personality, else neuroses will develop. These theories have gained wide support in spite of the fact that we know inhibition of the basic, instinctive drives of the individual is necessary if the individual is to be able to adjust to society at all. It is not inhibition that develops neuroses, but inadequately developed inhibition, that leads to the emotional instabilty that is the foundation of neurosis. It is not less inhibition, but more adequate inhibition, that the individual needs to adjust in our society without psychoneurotic illness.

These factors are essentially responsible for this potential Frankinstein monster among us. Surely, individual initiative and integrity, a sense of duty, a sense of responsibility, and a feeling of loyalty are natural antidotes to much psychoneurotic disease. It is just these character traits that have been undermined by the philosophy that has governed the training and development of many of our young people today.

If this brief analysis is true, and we recognize it and act accordingly, we can take heart, for the trouble is not so deep-seated and ineradicable as some would have us believe, for these character traits of individual initiative, integrity, duty, and loyalty arise normally in the course of development and education, when they are the accepted social ideal. We cannot expect our young people to possess these reservoirs of character strength when they have been raised in an environment that puts them secondary to the gratification and expression of the indivdual wish. It has long been obvious to the child psychiatrist that you cannot continually protect a child from adverse circumstances and expect him to grow into a normal, resourceful man, for no matter how well-meaning this desire to protect may be, it cannot lead to the development of resourcefulness and strength of character. Protection does not develop strength, but the need for protection. As one of the greatest psychiatrists of them all said, "Sweet are the uses of adversity."

The post-war importance of all this is the fact that we are going to have to face the problem of a large number of these psychiatric casualties. Pensions and disability benefits in the form of cash payments will be the easiest way out, and will appeal to many. We of the medical profession must point out that direct subsidy of psychoneurotic defect can only serve to crystallize the disability.

We must take care of these men. Many of the most painful and disabling of the psychoneurotic illnesses are precipitated by the fantastically terrible trauma of combat. The disability is as truly service-connected as the loss of a leg or an eye. But we will fail these men, and society as well, if this care does not consist of a well organized program of rehabilitation designed to restore these lost virtues of initiative, integrity, duty, and loyalty, and return the men to an independent and self-reliant life.

Ocular Manifestations of Syphilis*

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A CONSERVATIVE estimate of various surveys would indicate that syphilis is responsible for from six to ten per cent of all cases of blindness and that about two per cent of all eye diseases are caused by syphilis.

There are certain well recognized pathological changes which are associated with infection by the Treponema pallidum and these constitute the basis for the changes which are observed in the eye as well as elsewhere in the body.

The organisms act as a slow irritant and tissues respond by accumulation of lymphocytes and plasma cells. In contradistinction to the lesions of the tubercle the new tissue is highly vascularized and perivascular round cell infiltration is a prominent feature. In the later stages granuloma formation (gumma) occurs with necrosis and healing by fibrosis.

The disease has a definite natural history:

Primary lesion or chancre may occur extragenitally, is highly vascularized and densely infiltrated with plasma cells, lymphocytes, and monocytes and is associated with regional lymphadenitis. Almost immediately there is a general systemic infection.

After a quiet period the secondary stage is ushered in by the appearance of local foci of irritation especially in the ectodermal tissues, skin and mucous membranes. These are in reality areas of irritation (vascular engorgement with round cell infiltration) around the spirochetes distributed by the blood stream in the subepithelial tissues. The secondary stage also manifests itself in a generalized lymphadenitis, involvement of bones and joints, paresis of the oculomotor muscles and iritis.

The tertiary stage is characterized by two exclusive types of reaction: The first type is a low grade diffuse inflammation followed by degeneration and necrosis and involving the cardiovascular system, the meninges, the brain and spinal cord with consequent optic atrophy and oculoneural changes. It is considered by some to be the normal tissue response because it occurs in from ten to twenty per cent patients who have been untreated or inadequately treated. The second type of reaction is a localized massive acutely necrotic allergic reaction occurring in individuals who have become sensitized to their organisms. It may occur in any organ. In the eye uveitis and keratitis result.

The orbit may be involved by a chronic periostitis which occurs in adults and in children with hereditary syphilis. Tertiary lues sometimes causes an increase in thickness of the orbital bones which results in a gradual contraction of the orbital cavity with consequent exophthalmos and pressure on the orbital nerves producing paralysis of the ocular muscles and neuralgia. Chancre of the lids is not infrequently seen. The lesion must be differentiated from a chalazion or an epithelioma. It is usually hard, having a grayish yellow greasy base and may be associated with a regional adenitis.

Gummas of the lids usually occur in the form of indolent ulcers.

Chancre of the conjunctiva begins as a papular swelling which soon becomes ulcerated at its apex and assumes the typical punched out appearance with sharp edges and a gray sloughing base. A simple conjunctivitis frequently occurs early in the secondary stage with other secondary manifestations in the skin and mucous membranes and is usually characterized by violent infection and chemosis. Granular syphilitic conjunctivitis (pseudo trachoma) is characterized by a diffuse rose red jelly like thickening of the tarsal conjunctiva. Syphilitic scleroconjunctivitis is limited to the bulbar conjunctiva and produces a diffuse rose red thickening of the conjunctival and subconjunctival tissues. This thickening is solid and has a smooth moist waxy appearance like pink coral. Syphilitic papule or mucous plaques are rare but do occur as moist elevated white lesions about the size of a pea surrounded by a narrow pink areola. Gummata of the conjunctiva are unusual but do occur as small, firm smooth and pink pea like tumors which ulcerate forming yellow ragged painless ulcers.

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*Read at the semi-annual meeting of the Delta Medical Society, Dec., 1943.

Syphilis usually involves the sclera in the form of isolated nodules which usually break down forming ulcers. Sometimes a diffuse scleritis complicates interstitial keratitis.

By far the most common corneal involvement is interstitial keratitis. In all but 3% of the cases the patients have congenital lues. Spirochetes have not been demonstrated in the cornea and it is generally considered to be a manifestation of an allergy to the toxins derived from the spirochetes elsewhere in the body. When one eye is involved the second eye invariably becomes affected sooner or later. The condition is frequently associated with iridocyclitis. Trauma has been shown to play a prominent role in the production of these lesions. The essential destructive process is a necrosis of the corneal lamellae with a massive cellular infiltration which soon becomes heavily vascularized while at a later stage repair is effected partly by the proliferation of fixed corneal cells and partly by the fibrous tissue derived from the invading elements.

In acquired syphilis acute syphilitic corneal abscess is sometimes encountered. This infection is produced by metastatic involvement of the cornea by large numbers of spirochetes. The avenues of invasion are not clean. The deep corneal abscess is associated with an exudative iritis and the formation of hypopyon.

Iritis is usually a manifestation of the secondary stage of the disease and may occur in either the acquired or congenital form. Sometimes it occurs during intrauterine life as demonstrated by the presence of synechia, occlusion of the pupil and atrophy of the iris in the newborn. Early in the disease there is a hyperemia of the vessels of the lesser circle of the iris giving the appearance of red spots around the pupil known as roseolae. Yellowish nodules about the size of a pinhead occurring usually near the pupillary margin appear near the same time that the papular eruption of the skin appears and are called iritis papulosa. The iris is congested and swollen and the exudatic process results in cloudy aqueous deposits on the posterior surface of the cornea, adhesions to the anterior surface of the lens, seclusion and occlusion of the pupil.

Involvement of the ciliary body by a gumma is uncommon and is usually seen in association with involvement of the chorodan iris or both. Involvement of the choroid is much more common in congenital than in acquired syphilis. The most common form is that described by Forster. Many small areas of inflammatory exudate, having a yellowish color are involved, some of which become confluent forming larger irregularly shaped areas. Because of the retinal involvement pigment proliferation nearly always takes place. The pepper and salt fundus is a frequent manifestation of hereditary syphilis. The fundus is covered with numerous yellowish spots and numerous spots of fundus segment.

The retina is rarely involved alone, retinitis usually occurring as neuroretinitis or chorioretinitis. The changes observed are due largely to an obstructive endarteritis. In diffuse neuroretinitis which is common in the secondary stage of the disease there is a diffuse grayish cloudy appearance of the entire fundus with blurring of the margins of the optic disc. Later there is migration of pigment from the pigment epithelium into the retina especially in the periphery of the fundus. As a result of localized vascular obstruction retinal or pre-retinal hemorrhage may occur.

Dependent upon the point of involvement syphilis of the optic nerve may be termed neuroretinitis, neuritis, or retrobulbar neuritis. Syphilitic optic neuritis occurs usually with acute syphilitic meningitis. It is usually involved by a papillitis. Primary optic atrophy occurs in 6% to 7% of tabes and about 10% of paresis. It is considered by some to be a retrobulbar peripheral and interstitial neuritis. The disease is always bilateral and progresses to blindness in not more than ten years. The field defects which occur are apparently due to the extent and location of the lesion. The optic disc becomes pale then chalky white but the margins remain well defined.

Central nervous system syphilis is frequently the cause of paralysis of the ocular muscles, internal as well as external. The exact location of the lesion which is responsible for the Argyll-Robertson pupil is unknown. This miotic pupil which reacts in accommodation but not to light is found in 70% of tabetics.

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The Rapid Treatment Center
A New Weapon in Venereal Disease Control

WILLIAM G. HOLLISTER, M.D.
Assistant Supervisor, Venereal Disease Control (Asst. Surg. (R) USPHS)

NOT ALL of the casualties we are having in this war are on the battlefront. We have only to look about us in our own communities to see the ruined business houses, the broken homes, and the unbalanced personalities that are a part of the human wreckage of this war—in other words, the casualties on the home front. One particular group of these casualties on the home front concerns the medical and public health workers greatly because this group constitutes a great health problem in terms of venereal disease control. I am speaking particularly of those immature teen-age girls who have left their farm homes or their little towns and have been swept into the defense and military centers of the state in search of jobs with higher pay, more excitement, and the chance to follow some boyhood sweetheart. There, in these very same towns, they are meeting men who have been torn away from their own wives, sweethearts, and the normal outlets for their basic energies. As one of the provost marshals has so aptly put it, "Everyone of these men away from home has become a potential wolf." We all know the result of this human equation: young, immature girls thrown with men away from home. The result has been a wave of sexual delinquency that has far exceeded anything in the history of this state or any other state.

As doctors and health officers we are vitally concerned about the disorganization of society that comes with war and the delinquency it produces because we know all too well that venereal disease spreads on the wings of this delinquency. Overnight we have had to deal with increased numbers of young girls who brazenly parade from one honky-tonk to another and who end up tragically infected in our offices or clinics. These casualties on the home front, these delinquent girls and their delinquent boy friends, created a real crisis in venereal disease control which led to the development of rapid treatment hospitals.

At this point you may ask why did the state ever build rapid treatment hospitals to meet this problem? Didn't we already have a good clinic program? To be sure there was an excellent clinic system built up to treat these patients but we soon learned that it took more than treatment to handle this particular problem of venereal disease control. For instance, all of us have had some bitter experiences with these girls. Time and again medical personnel would give these young girls sulfathiazole pills to cure them of gonorrhea and they would go home, take five or six, become a bit nauseated and throw the rest in the wastebasket. It would be a week or two weeks before this failure to take treatment would be discovered and in the meantime the girl was continuing her promiscuous activity. None of us could ever be sure that the very girl we were putting under treatment would not go out that same night and infect others during those few days before she could be rendered non-infectious. It became more and more impossible to predict on the first interview that any one given patient would come back steadily and take all the eighteen months treatment required for syphilis. Overworked venereal disease investigators time and again chased down girls who had lapsed treatment only to find that they had moved on to the next town or even out of the state. We all began to realize we needed a greater element of control over these girls. We needed to remove them from the community and control them so that they could not continue their promiscuous activity. We needed to control them so that we could be absolutely sure that they received every bit of the treatment that they so badly needed.

Besides treatment and control we soon realized that many of this group of delinquent girls would require some effort on our part to get them out of this promiscuous pattern of living, if we were going to prevent them from becoming infected over and over again.

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*Presented before the seventh annual meeting of the Mississippi Public Health Association, Jackson, Miss., Dec. 9, 1943.

As we studied these girls further, we found out that a great many of them had fallen into delinquency because of some social cause. It became increasingly apparent that if we did not do something to stop the social causes behind that delinquency that these girls would become the prostitutes of tomorrow and a plague to the public health for years to come. Thus redirection became a vital need in the program.

It was out of the need for rapid treatment, control of the patient, and redirection wherein possible that the rapid treatment center program was born. The state owes a great deal of gratitude to the man who had the social vision to formulate the rapid treatment center program. Through the efforts of Dr. Underwood, Dr. Gray, and their associates in the State Board of Health, the resources of the state and of the various Federal agencies were mobilized to build this program. As a result the State Board of Health was able to open its first rapid treatment center at Richton, Mississippi, in April, 1943, and one month later the second center was opened in the north wing of the Matty Hersee Hospital in Meridian.

At this point you might ask what has been done so far in these rapid treatment hospitals? To date these two treatment centers have treated six hundred and seventy patients and returned them to our counties, free of infection. Four hundred and thirteen of these have been treated for gonorrhea and two hundred and sixty-six for syphilis, nine for both gonorrhea and syphilis. In addition they have treated several cases of the other venereal diseases. In adopting the newer rapid methods of arsenotherapy in these hospitals the State Board of Health has been careful to observe the obligatory safeguards these methods entail: specially trained medical personnel, hospitalization, continuous observation of the patient, and a full six months serologic follow up. As a result the reaction rate has been low, the mortality nil, and the rate of cure, as of this date, fully up to the best expectations.

At the Richton Center, under the leadership of Dr. Francis Wilder, much of the pioneering work in the clinic organization for the ten-week treatment of syphilis has been done. This center has been a vital link in the efforts of the county health officers to clean up the defense and military centers in the southern part of the state. In addition the personnel at this center has organized a program of redirection, job training, and job placement to a level equal to or surpassing the attempts of any other state, as far as we have been able to determine.

At the Meridian Center, Dr. John Flynn has been using a more potent weapon in venereal disease control; namely, the five-day continuous intra-venous drip of mapharsen for the cure of syphilis. Dr. Flynn has carefully picked and trained his staff and gives this treatment with every one of the clinic and laboratory safeguards that are provided in the best clinics in the country. To date he has given fifty of these treatments successfully.

By virtue of a lot of hard work and lots of trial and error a workable mature plan for the operation of these centers has been formulated. The hospitals are now in a position to offer a real service to the various counties. They are prepared to call for, treat, and deliver back to the community any infectious female discovered. Application to the hospital is made through the offices of the county health officers and is open free to anyone willing to coöperate and stay until the treatment is finished.

Many of you have asked the question, "What are the plans for the future?" The State Board of Health plans to expand the services of these hospitals. This month will see the bed capacity doubled and by spring it will be tripled. New hospitals are opening at Greenwood, McLain, and Brookhaven. More cars will go into service to expedite the calling for and delivery of patients. And all of this is not meant to be just a war measure. The State Board of Health plans for these hospitals to be a permanent part of the venereal disease control program. It is to be a hospital program to work side by side and hand in hand with the clinics and private treatment program until by virtue of the common effort the tremendous venereal disease problem of this state is licked and stays licked.

Besides expanding the services and making them permanent, the future also will bring a widening range of service for these hospitals. Doctors will all be glad to hear that plans are now underway to handle men as well as women. But more than this, the State

Board of Health is looking forward to the day when these hospitals will receive more and more voluntary patients and fewer patients under quarantine. Many people have had the idea that these patients would be the tough hardened prostitute but the hospitals have received very few patients of this type. Instead the average patient in our hospitals today has turned out to be a misled, emotionally immature, teen-age girl who stands a lot more in need of help than in need of punishment. We all will have to temper our ideas about these girls and remember that many of them became delinquent because behind them were delinquent parents and inadequate community organization to meet the strains of wartime social disruption. Many of these young twelve, fourteen, or sixteen year-old girls are responsive to a program to put them back on their feet again but it is often impossible to get anywhere with them if they have been through a jail or forced to come to the center by quarantine. Interest is now being developed in educating more and more of our patients to come to the center on a voluntary basis rather than to have them forced into the center by means of quarantine or threat of jail. It pays real dividends to sell patients on the center as a hospital facility because such patients are more coöperative and more appreciative than those who come to the hospital under pressure. This does not mean abandonment of the power of the county health officer to quarantine patients into the center, because we all recognize that there are some types of patients who need such tactics, but this does indicate a drift in policy toward more voluntary admission. These centers are to be hospitals in the fullest sense of the word. An applicant should know that these are free hospitals open to anyone who is willing to coöperate, that she will get good food, clean living quarters, respect and consideration, good medical care, a chance to earn money, a chance to learn a job, and if she wants it the placement director will try to find a job for the girl when she is dismissed. Once these facts are known it takes but a few minutes to win a patient to the program and educate her into the voluntary choice of a rapid treatment hospital as the place of treatment. Such voluntary admission makes good patients learn more quickly about their diseases, find out what they must do to care for themselves, and respond better to redirection. Back in the county they coöperate much better with the medical follow up and constitute less of a reinfection possibility.

It might be well here to point out a striking parallel between prostitution and syphilis. Both of these diseases, one social and one medical, have four stages. Doctors are all aware of the traditional four stages of syphilis, but prostitution has four stages too. The first stage is the delinquency stage in which the delinquent home fails to raise the child to emotional maturity; the second stage is the stage of frustration caused by a delinquent community that does not provide clean outlets for the basic energies in life; the third stage is the compensatory stage in which the patient releases frustrated undirected sex energy in being promiscuous, and the fourth stage is the economic stage where money gets linked with the sex act. Practically speaking there is also a parallel in the ease of cure between syphilis and prostitution. It is easy to cure syphilis in the early stages but more difficult in the later stages; the same is true of prostitution about which it is almost impossible to do anything after the patient has become a prostitute. This parallel points up a potent principle: it is just as important to get to these promiscuous girls before they become prostitutes to cure them of prostitution as it is to get to syphilis cases in the early stages to cure them of syphilis. All promiscuous girls who are infected should be sent to these hospitals, no matter how sweet and innocent they may look, because it will be a far sight easier to prevent prostitution and misdirected marriages before they get started than to stop them and fight against them for years once they have started.

The State Board of Health has realized that it is not its particular job to redirect these girls so it has mobilized the resources of the Red Cross, USO, Traveler's Aid, and the Department of Public Welfare to take over these responsibilities. None of these organizations has its head in the clouds about how many of these girls are going to go straight, five per cent this year, maybe ten per cent next year, maybe more later. At least, every girl who comes to the center will be interviewed and if there is any chance at all that she can be helped by guidance, a new job, or by being returned home, this chance will be exploited to the fullest extent. We all recognize there is no point to cleaning a patient up medically so that she can get reinfected over and over again. In redirection the social agencies face a tough assignment, five times as difficult as treating syphilis and the State Board of Health has pledged its fullest coöperation with those agencies that have taken over these responsibilities. Besides interviewing every girl and helping her determine what is an intelligent plan for her future, we intend on dismissal to bring the girl back into the community to be under the control of your local agencies or a responsible relative. If she proves to be a good girl who has intentions of going straight she will be offered help and guidance by the County Welfare Department. If she is going to be delinquent again and it is just a question of time as to when she becomes reinfected, she will be sent back to the county under the control of the health department, welfare department, and enforcement groups until she does go straight or legal procedures for delinquents are carried out at the discretion of the county authorities.

Let me then summarize—why do we have rapid treatment centers? Because there is need to control patients and redirect them as well as treat them. What have they done so far? They have treated their first seven hundred patients and plans are in operation to expand their services and triple their bed capacity. What are the plans for the future? Expansion of the facilities to include treating men, eventually widening the services so that doctors will feel free to send more voluntary patients and use the center as a hospital facility. It is hoped doctors will use this service to the fullest measure so that some day Mississippi will be able to record with pride that its doctors and its State Board of Health conquered the second biggest venereal disease problem in the nation.

CASE REPORTS

W. H. ANDERSON, M.D.

Booneville, Miss.

I. W. H. S. Colored male, age nine years. Came for treatment for urethral discharge, had long foreskin. Microscopic examination revealed gram negative intra and extracellular diplococci. Diagnosis acute gonorrhea. Treatment one week, seven and a half grains of sulfathiazole every four hours. Circumcision followed. Patient checked at end of two weeks and seemed to be perfectly well.

II. J. V. N. White male, age eight years. Came from Memphis, had just had circumcision one week before and mother says he took large white tablets for a week. Had some discharge. Smear was diagnosed as gram negative diplococci by State Board of Health. Our treatment was sulfathiazole for another week and patient seemed to be entirely well.

III. C. F., White male, age six years, came for first examination, had urethral discharge. Diagnosed as acute gonorrheal infection. Treated with sulfathiazole and apparently well at thé end of eight days. State Board of Health reported smear showing gram negative diplococci.

The definite sources of infection of these cases was not determined. The eight-year-old white boy had a sister just younger who gave a story of vaginitis which seemed to be gonorrheal, and she had the same treatment as her brother and seemed to be well. The colored boy is one of eight in family,who live in cramped quarters.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

Medical associations are being well attended this year. We believe the attendance will be good at Jackson on May 9 and 10.

Dr. Leroy Wilkins, president, is giving us a fine program this year. His chairmen have been active and have shown good judgment. Dr. Wilkins will deliver an able address on president's night. He is an outstanding man in his specialty and one of the finest and most progressive citizens to be found in this state. He is kind and courteous and gives himself freely to every good cause. We congratulate him on selecting Dr. John Darrington for the annual oration. Dr. John Darrington has a professional mind, a medical soul and a missionary heart and he is one of the outstanding orators of this state. When we think of him we also think of his love for dogs and the hunt. He always creates an atmosphere that inspires. President's night will be worth the trip to the meeting. The indications are that the attendance will be good.

The Robert E. Lee Hotel is a fine meeting place for the state association. In service and in general average it is not surpassed in the South.

If you graduated in 1895 or before, you are eligible for membership in the Half Century Club. Dr. Evans will explain to you about the organization of the club Tuesday, May 9, at noon at the Robert E. Lee Hotel.

Glory and honor and appreciation to the doctors of this state and others who have practiced for forty to fifty years and more and who are still holding the civilian firing lines by serving the people during these trying times.

Make a call by the exhibitors' wing while at the meeting. We should coöperate with the exhibitors as they do with us. We have the same purpose—serving the people. Medical association meetings generally are financed chiefly by the exhibits. Our association is badly in need of more money. With the right attitude and coöperation, our funds can be increased from our exhibitors and the end results would be mutually beneficial. It is poor taste at this time to use all the funds from the exhibits for entertainment when the Association is limited in finances for essentials. Let us support our exhibitors.

As a rule when people know each other well they like each other better. This applies to doctors as well. Medical associations furnish a fine opportunity for doctors to get acquainted and to swap valuable ideas and to learn to love and respect each other.

At our last meeting the Jackson boys under the fine leadership of Dr. A. O. Schmid held a nice banquet for the alumni. The plan is to have this banquet again. It will be well attended, enjoyed, and beneficial.

Our good wishes and our deep appreciation are extended to our doctors in the armed forces. We want to know something about each one of them. Please pass the information of their whereabouts, promotions, endeavor, and observations on to us.

We regret that the legislature did not see fit to give its approval to a four-year medical school. We trust this will be accomplished the next session. We are fully convinced that Mississippi can have a four-year medical school, that it can have one of the best in the United States. We must teach our boys in their native environment to treat diseases and meet the medical problems at home. If we perfect our hospital system as we could and should, we will have a fine setting for a practical medical school that will show the medical world how to do more with less, rather than to do less and less with more and more. Let us catch the vision and then make the application in a creditable manner.

Our home-front casualty list in medicine has been heavy this year. The average age of the doctors who have passed on is sixty years. It is remarkable how the men past seventy and even eighty have responded to the call of duty in this world crisis. Glory and honor to them. Each and every one deserves a badge of honor. Many of the tall pines of the medical forest have fallen since our last meeting. Dr. Peter W. Rowland of Oxford, the dean in medical education, an able teacher, a safe practitioner, a most active man in organized medicine for more than half century, a past-president of the State Medical Association and a past-president of the Mid-South Postgraduate Medical Assembly; Dr. John Howell of Canton, closely associated with organized medicine and a member of the official family of he State Medical Association for many years, a cordial and courtly Christian gentleman of the first order, the Chesterfield of the Association; Dr. F. E. Rehfelt of Jackson, devoted in the highest sense to duty and his profession; Dr. Willis Walley of Jackson, a past-president of the Association, a deep thinker, a surgeon of unusual ability, a man with a big brain and a friendly and kindly heart; Dr. E. R. McLean of Cleveland, a past-president of the Mid-South Postgraduate Medical Assembly, a generous and lovable man always interested in every good thing for his state—these are among those who have responded to the last summons, and will be greatly missed at the state meeting.

We have about twenty-five per cent fewer doctors now in our state than we had sixty years ago, notwithstanding the fact that the population in our state has more than doubled. In the nation at large between five and ten per cent of our population are above sixty years of age, but not less than fifty per cent of our doctor population in Mississippi at this time are past sixty. It might be easy enough to go out and find a doctor who can give a CC pill, but to find one in a small town who can perform an aneurysm on the circle of Willis is not at all easy.

Likewise, it might appear to be an easy to procure a printer to set the papers for our medical journal and carry the printing process through to completion. Well, it is hard enough to get even a tramp printer now, but to get one who can do this work without special training is impossible at this time in Mississippi. The last one of three trained to do this work has been drafted under the twenty-six year ruling.

Our key printer held a place not paralleled in this state because we publish the only medical journal in the state, the only one that has ever been published in the state. We do not believe meetings of the Mississippi State Medical Association should be suspended for the duration, nor that public health work should be curtailed, nor that practitioners should stop trying to obtain all the medical information that is available. *The Mississippi Doctor* is the only medical journal many doctors read. Since it is of unquestioned importance to keep medicine in liquid form and to keep delivering medical service to our people, then it is not unreasonable, but just and fair and patriotic, that the only remaining man in this state trained to set up the type for this journal, to make it up in forms, to print it on an automatic press, and to supervise the folding on an automatic folder should be deferred as essential to the war effort.

It has been asserted with no reserve of

authority that if the publisher has been unfortunate enough to "hitch his wagon to a star under twenty-six years of age, it is then time to junk the journal and its entire endeavor."

We thank Dr. J. A. Majors Company for a special ad for the Jackson meeting. This company always does the nice thing. It can furnish you any medical book even from other fine companies than the W. B. Saunders Company.

Last year Dr. Harvey Garrison was president of the Southern Medical Association. This was a very high honor brought to our state. He was big enough to wear the toga with distinction. This year Dr. Felix Underwood is president of the American Health Association, another honor brought to Mississippi. We think that in Dr. Underwood we have the ablest public health man in the United States.

TO THE MEDICAL PROFESSION OF MISSISSIPPI

If you have anything to bring to the attention of the Liaison Committee of the State Medical Association, please do so at once, or at least before the meeting on May 9. It is the desire of the committee to be of service and do our full duty.

Harvey F. Garrison, Chairman

INVITATION

Dr. W. H. Anderson of Booneville wants to extend a cordial invitation to every doctor in the state who has practiced medicine for fifty years, to be his luncheon guest at the Robert E. Lee Tuesday, May 9. He is giving this luncheon in honor of Dr. W. A. Evans, who has practiced for fifty years and who has rendered such outstanding service in the field of public health that he has long enjoyed national recognition. Dr. Evans belongs to the Half Century Club in Illinois and will discuss with the group the advisability of organizing the eligible doctors in the state a club which will meet at the time of the annual association each year. Your presence will be genuinely appreciated by the host and as much by Dr. Evans.

Please notify Dr. Anderson of your intention to attend as soon as possible after you arrive at the meeting.

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STATE MEDICAL EXAMINATION NOTICE

The Mississippi State Board of Health will hold Medical Examinations on May 29 and 30, 1944, in Jackson, Mississippi, at the Robert E. Lee Hotel.

Examinations may be taken on the first two years only, as well as on all four years of Medicine; (or on the last two years for those who have passed the first two years before this Board.)

The staff of The Street Clinic and Mercy Hospital—Street Memorial announces the association of George Harris Martin, M.D., surgeon.

FOR SALE

Complete equipment of Funderburk Hospital, Union City, Tennessee, including:

3 x-rays (1 profexray)
1 EKG machine
2 diathermies
1 metabolism machine
Treatment lights
orthopedic and surgical instruments, stainless steel
operating table (stainless top)
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Kahn apparatus, and other equipment
other laboratory

All of the equipment for this hospital was bought new in the fall of 1942, and the hospital was closed in October, 1943 at Dr. Funderburk's death.

Will sell complete or by the piece.

Mrs. N. A. Funderburk, Union City, Tennessee

Interpreting Medical Literature

DERMATITIS DUE TO SHOES, by Clarence Shaw, M.D., Chattanooga, Tennessee, Archives of Dermatology and Syphilology, Vol. 49; No. 3; March 1944; pp. 191.

Doctor Shaw writes a brief but interesting article based on observations of 22 cases of dermatitis due to shoe leather which he has seen in the past three years. He brings out some points of interest that are not usually thought of when one is attempting to determine the cause of dermatitis of the feet and lower legs due to some irritant to which the patient is sensitive. For instance, some changes have been made in the material used in the manufacturing of shoes since the war. Patients at times are sensitive to shoe polish. The lining canvas of the shoes is usually impregnated with antimildew compounds. These compounds consist chiefly of chlorophenols with various trade names. Mercury compounds are used in many forms, such as phenylmercuric nitrate and phenylmercuric lactate. Copper compounds are used also in the form of naphthenate, carbonate, palmileolate and fluoride. Salicylanilide and hosts of other chemicals are used. These substances are primary cutaneous irritants in strong solutions, but they are used on fabrics in dilutions of 1 per cent or less; hence many of them can be safely used, although even in weak dilutions they may act as sensitizers. The glue that is used to approximate the sole to the welt and inner lining to the upper leather may produce sensitization dermatitis. The dye, or the polish, as the case may be can also produce dermatitis. It is possible that a great many patients have been treated for ringworm infection who were really suffering from a dermatitis venenata from some of the chemicals used in the shoes. The eruption is to be differentiated from dermatophytosis, with which it is frequently confused, by the history, the clinical appearance, the positive reactions to patch test with material from the shoes and the absence of fungi. Associated dermatophytosis could not be demonstrated by microscopic examination for fungi in any of the author's cases. Symmetric lividity of the soles must also be considered in the differential diagnosis. Compounds used in the manufacture of leather, anti-mildew preparations impregnated in the lining, glue, felt, canvas and synthetic substitute materials employed since the onset of war are all possible sensitizers. Once the diagnosis is established the positive reactions to patch test the patient may be relieved by changing the brand of shoes. In commenting on this, it would seem that the patient who had a fungus infection and who did develop a polysensitivity over a period of years would be more susceptible to a dermatitis venenata than a patient who did not have a fungus infection. It would be better on examining the patient's feet to determine whether the vesicles and fissures are first located between the toes, especially between the fourth and fifth, or located on the sides of the foot or on top of the foot. If the vesicles are located in some unusual position and there is no history of cracking or vesicles between the toes, it is quite possible that the patient is suffering from some chemical compound used in the manufacture of the shoes.

PEDIATRICS

Influenzal meningitis, which occurs mainly in early childhood, formerly had a mortality rate of from 95 to 100 per cent. The use of specific antiserum intrathecally and intravenously reduced the mortality rate only to 72 per cent. Furthermore, sulfanilamide, even when combined with specific antiserum, made but little difference in the death rate. Then from 1939 to 1942 very encouraging results were achieved with sulfapyridine together with serum by Neal and co-workers and others. Hamilton and Neff and McLean, Woods, and Henderson both reported single cases of influenzal meningitis in which the patients were cured with sulfapyridine alone given orally in large doses. Now most investigators still combine serum therapy with chemotherapy in the treatment of the disease.

There have been eleven patients with proved cases of influenzal meningitis at the Harlem Hospital in the past seven and one-half years (January 1936, to June 1943.) A review and analysis of these cases are presented to show the progress made in the chemotherapy of this disease. All eleven patients were children whose ages ranged from

10 months to 4½ years. They were all treated with sulfonamides. In six patients influenzal antiserum was injected intrathecally, intravenously, or by both routes. The first six patients of the series died, while the rest were cured and showed no complications.

Of the seven patients treated with sulfapyridine or sulfadiazine, only two died, while the three treated with neoprontosil or sulfanilamide all died. The patient in Case 5 received meningococcus antitoxin intrathecally before H. influenza was cultured in the spinal fluid and was given sulfapyridine by gavage tube preterminally. In Case 6 sulfapyridine was not given the patient until the fourteenth day of illness when it was administered orally and intrathecally (as the sodium salt), with resulting temporary improvement of the patient's condition. The two patients treated with sulfadiazine were the only ones who recovered without serum. In the case where specific serum and sulfadiazine were given, the former was administered only intravenously. In all the other cases the patients received serum intrathecally.

In their summary and conclusions they say:

1. Eleven cases of influenzal meningities are presented to show the progress in the chemotherapy of this disease.

2. Before the advent of chemotherapy, the mortality rate from influenzal meningitis ranged from 95 to 100 per cent. The newer sulfonamides plus serum have apparently cut this in half. In our series of eleven patients, only six died (45.5 per cent.)

3. While this series of cases is small, the results indicate that influenzal meningitis can be cured with chemotherapy and serum or with chemotherapy alone. Furthermore, sulfadiazine is a very effective, if not the most effective drug, for the treatment of this disease.

COMMENT

We feel that this article is of such far reaching importance that every doctor in Mississippi should read it. The facts that a disease that formerly had a mortality rate of practically 100% that has now been cut to even 50% is quite an advance for medical science.

SURGERY

A Report on the Management of Burns; Annals of Surgery, Volume 119, February 1944, Number 2, Page 161.

The authors discuss the use of occlusive dressings with the addition of sulfathiazole emulsion in the managment of major burns, a subject always of interest and at the present moment of unusual concern. A general table pertaining to appropriate timing in the treatment of burns with an operational chart is offered. A total 100 patients having sustained major burns are presented for particular analysis. Twenty per cent sustained burns of ten per cent or less of the body surface, forty per cent burns of ten to twenty per cent of the body surface, twenty-six per cent of twenty to thirty per cent of the body surface, ten per cent from thirty per cent of the body surface, and three per cent of more than fifty per cent of the body surface. Of the total cases studied seven or seven per cent died.

The early recognition of shock and its proper treatment are held of prime importance, and it is agreed that hemo-concentration due to loss of blood plasma from the circulating blood is encountered in extensive burns. The authors feel that other factors may contribute toward the production of shock and that shock can and does exist in the absence of hemo-concentration. They consider it impossible to predict on a clinical basis what factors, or combination of factors, operate to produce this shock in any given burned patient.

They state that there is no basis for the prevalent belief that a burn of a given area requires so many liters of plasma to combat shock and they believe further that when hemo-concentration does not exist the too liberal use of plasma may result in edema of the lungs, liver and kidneys. The type of therapy with whole blood plasma or crystalliods must, in the opinion of the authors, be determined by the abnormality which actually exists in each specific case.

The authors consider the most important feature of the local therapy to be the surgical cleansing of burns followed by an occlusive compression dressing. It is their experience that the addition of 5% sulfathiazole in an oil and water emulsion is an important additional factor against infection. Sulfadiazine was used orally or intravenously in three severely burned cases when pulmonary infection was suspected. Unless such infection is feared the authors believe that the early use of these drugs in severe burns carries grave unnecessary additional risk to the liver and kidneys and it is their feeling that the local use of the drug is so satisfactory that there is no object in putting an additional load on a damaged vital organ.

MENTAL HYGIENE AND JUVENILE DELINQUENCY*

by
Louise Wood
Psychologist
Child Guidance Center

The statement heard so often that war increases juvenile delinquency is only indirectly true. Juvenile delinquency is always with us, but war does affect the condition of life surrounding children in such a way as to cause an increase in juvenile crime. The social factors back of juvenile delinquency have been recognized and much has been written about them. Examples are cited daily of the breakdown of family life with father in the service and mother working, crowded living conditions and lowering of living standards, overcrowded schools and turnover in teachers, and lack of adequate community facilities for handling the greatly increased juvenile problem. It is rather of the psychological factors accompanying these social causes and the influences that are brought to play on youth that I wish to speak.

Children who become delinquent are usually those whose emotional stability has been undermined by conditions surrounding them and by the attitudes of the adults with whom they come in close contact. Frequently they are children who have given earlier evidence of being maladjusted, or those who have been grossly overprotected or who have been so sheltered that they have no defenses and no means of coping with life, especially in these difficult times. Occasionally the results of unfortunate influences or experiences fail to show themselves for quite an interval so that adults may not connect cause with effect and cannot understand the sudden appearance of disturbing symptoms in the child. In young children these symptoms are more apt to evidence themselves in the form of fears and anxieties. Adolescents are frequently stimulated to greater activity which may be directed into good channels but when not well directed delinquency may result.

One of the chief threats to the emotional stability of children lies in events or influences which arouse the strong emotions of fear, hate and aggression, persisting anxiety and frustration. These influences are all around us. The vivid radio descriptions and dramatizations of battle scenes and of bombing and torpedoing at sea, motion pictures and newsreels depicting the actual fighting, magazine accounts of atrocities, famine and starvation, often illustrated by pictures of the dead and of devastated areas—not to mention actual occurrences within the family group of brother or father departing for service or reported wounded, captured or killed—are but a few examples. The effect of all this, especially on sensitive or highstrung children, cannot be measured. It would be impossible to protect children entirely from these influences even if it were desirable to do so. However, it is desirable to shield children from the more extreme stimuli of this nature as far as is possible.

The tendency of some adults to dwell on the most harrowing aspects of the war news in the presence of children is deplorable. Just what are some of the results of arousing these strong emotions in children? The high incidence of the more aggressive forms of delinquency reported throughout the country answers this question only too well. There is an increase in gangs, especially in the cities, where the more serious offenses committed include such acts of aggression as vandalism, fire-setting, hold-ups, theft and burglary, frequently committed purely for excitement. These are the direct working out of the hate and fear absorbed by our youth from the very atmosphere around them. The social facilities in most of our communities have not been sufficiently developed to cope with this problem.

The need for security is one of the most fundamental needs of all children. This security children get from adults in their immediate surroundings. They identify themselves emotionally with a few adults, parents, teachers or relatives, and adopt their attitudes, behavior and ideals. The disorganizations of home life in America due to war conditions is well recognized as being one of the most serious threats to the emotional stability of children. The absence of key persons in the home means inevitable loss of security. With the father in the service and in many instances the mother working, younger children have been without proper supervision or delegated to the care of strangers. Among the adolescent group there has developed a vast number of "door key children" who are thrown almost entirely on their own resources. They are not emotionally mature enough to cope with this situation. They have neither the judgment nor the stability, and as a result they easily drift into delinquency in search of excitement and because of the frustrated desire for normal fun. The accelerated maturation of teen age girls with the accompanying superficial sophistication, the glamour of the uniform, the sudden increased earning power of youth without the experience necessary for proper spending, all enter into the causation for our alarming increase in juvenile crime.

Fear and anxiety are probably the most contagious of the emotions. Adults who are jittery, fearful or depressed and defected communicate these emotions very quickly to children and such contagion can spread rapidly through a family or a classroom and a school. These emotions, if held over long periods may impair health, warp the child's view of reality and bring on a belief that the outlook for the future is dangerous, insecure and unhappy. The necessity for all adults who come in direct contact with children to maintain a calm, cheerful and reasonable attitude toward the war cannot be over-stressed. Children with underlying fears and anxieties cannot concentrate on school work and are often hindered from making good social adjustments. Sometimes they become overdependent on the adults around them and wish to withdraw from groups of their own age. They may develop the feeling that nothing is worthwhile and that they must grasp at any form of pleasure while they can. There is no question but what this last attitude is the cause of much of our sex delinquency.

Another great need of children is to understand the war issues as far as it is possible for their age. War is affecting their lives in every way and unless the resulting emotion is directed into helpful and positive channels, the child remains in a state of excited confusion which must inevitably result in unacceptable behavior. People can endure danger, discomfort, even suffering and privation, if they understand that there are important reasons for doing so. This is equally true of children. If concrete, constructive action can be taken to work off the released energy there will not be the damage to mental health.

The war offers a great opportunity for developing and practicing good citizenship. The real value of such activities as salvage drives, war gardening, and stamp sales for children is not in the actual results of the activities but in the feeling it gives those taking part of being members of a group engaged in important war work. If children are left out of these enterprises, a mood of uselessness and self-depreciation results. Adolescents especially need to be shown. They are at the stage where they question everything in the world about them. It is very important for them to be convinced that they have their place in the community and an important share in the community activities related to the war as well as to other constructive undertakings. They must not grow up afraid of the future but they must be taught how to meet it through understanding and participation. It is well for children to have a part in the planning of programs in order to deepen their sense of sharing and of responsibility.

All children should have an opportunity to learn the facts about the war. This does not mean an over-emphasis on war, but the chance for free discussion and exchange of ideas and information serves two purposes. It enables the children to get facts straight, to obtain answers to questions which may have been worrying them and to express their fears and anxieties in the security of a friendly group. It is very important that the teacher or adult who conducts such discussions be both well informed and well controlled.

The teacher has a unique post from which to observe the symptoms of emotional tension, anxiety, insecurity or confusion. There are many. Perhaps it would be advantageous to mention some of the patterns of behavior which appear in the majority of children and which seem to be the normal outcome of the war atmosphere. They are the natural way for youngsters to work out their problems. Children play war games almost exclusively, often of a rough nature. They ask innumerable questions about planes and military equipment. They do considerable bragging about the strength and prowess of themselves, their relatives in the armed forces and their country. They identify themselves with war heroes and imitate men and women in uniform.

Such preoccupation with the war alone should not cause too much concern by adults. But there are other symptoms which, if they occur persistently or if several are observed in the same child, may be very significant in spotting the child who is deeply disturbed emotionally. It would be impossible to give a complete list but the following may be suggestive: unusual restlessness or inability to concentrate attention on things which are usually interesting to that individual, digestive disorders such as vomiting or lack of appetite, sudden outbursts of crying or anger without adequate cause, excessive daydreaming, withdrawing from accustomed activities, undue affection or clinging to an adult, destructiveness or cruelty, marked fear in the absence of danger.

It is amazing to see what can be accomplished by friendliness, listening to the child's story, giving realistic reassurance and making suggestions as to how the child can help himself. Individual attention of some sort, from the teacher, counselor or the Child Guidance Center should be received promptly before the symptoms become aggravated.

Someone has said that adults who deal with children should have the three following characteristics. First, they should furnish children with a good example. Second, they should maintain a human understanding and consistent attitude towards children. Too frequently adults are at the mercy of their own moods and emotions and take out their own insecurities and inner conflicts on the children in their care. Third, adults should be sensitive to the individual needs of the children. Especially in adolescence, children of the same age show great variation in emotional development and maturity. Some need much help in gaining independence and in growing up than others. Some are far more sensitive than others. An attempt on the part of adults to understand each child as an individual and to meet his needs as far as possible is one of the first steps in the mental hygiene of children. It is only through the maintenance of sound mental health in our youth that we can hope to stem the rising tide of juvenile delinquency.

CHILD GUIDANCE CENTER

Mississippi's Child Guidance Center, modeled after the famed Judge Baker Guidance Center in Boston, has now been in operation several months. Under the direction of Dr. Estelle A. Magiera, formerly psychiatrist at the Mississippi State Hospital and at Hartford Retreat in Hartford, Connecticut, the center is meeting a real need in the rehabilitation of emotionally disturbed children.

Referrals may be made through the physician or the health officer, as pointed out in the October *Mississippi Doctor.* Services include diagnostic studies of children with disturbances of a psychogenic nature and complete psychotherapy for the child with a severe neurosis.

Assisting Dr. Magiera is Miss Louise Wood, psychologist, and Miss Mary Elizabeth Watts, psychiatric social worker. Miss Watts, who only recently joined the staff, comes to the State Board of Health from Pittsburg, Pennsylvania, with excellent qualifications for her duties with the Child Guidance Center. She is a graduate of the University of Michigan, and received her master's degree in psychiatric social work from the University of Pittsburgh. Her experience in juvenile court work together with psychiatric social work in Child Guidance centers in Pittsburgh will enable her to give valuable assistance to Mississippi's program.

Offices of the Child Guidance Center are located in the Standard Life Building at Jackson. Additional clinics have been held at Hattiesburg, Gulfport, Tupelo, Meridian and Pascagoula at scheduled periods.

* * * * *

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	Feb. 1944	Feb. 1943	Feb. 5-Yr. Average
Acute poliomyelitis	3	2	3.0
Bacillary dysentery	466	473	347.6
Dengue	0	0	0.0
Diphtheria	19	32	23.6
Influenza	11900	9032	1396.2
Measles	2682	1372	2154.6
Meningococcus meningitis	49	49	22.0
Other forms meningitis	23	7	8.2
Pellagra	133	159	197.1
Pneumonia	2573	2259	2410.8
Pulmonary tuberculosis	163	111	110.0
Scarlet fever	48	52	39.8
Smallpox	2	1	2.6
Tularemia	3	8	5.5
Typhoid fever	14	7	7.8
Typhus fever	2	1	1.4
Undulant fever	4	2	2.6
Whooping cough	1076	1070	936.2

Woman's Auxiliary

PROGRAM

TUESDAY, MAY 9—

9:00 a.m.—Registration,Robert E. Lee Hotel
3:00 p.m.—Executive Board Meeting.

WEDNESDAY, MAY 10—

7:30 a.m.—Past Presidents' Breakfast.
9:00 a.m.—General Session
Presiding—Mrs. H. C. Ricks.
Invocation—Mrs. W. R. Bethea.
Address of Welcome—Mrs. A. L. Gray.
Response—Mrs. Augustus Street.
Introduction of guests and greetings.
from Mississippi State Medical Association
In Memoriam—Mrs. C. C. Hightower.
Minutes of Preceding Meeting—Mrs. Geo. E. Riley.
Reports from A. M. A. and S. M. A.
President's Address—Mrs. H. C. Ricks.
Officers Reports.
Auxiliary Reports.
Councilors' Reports.
Committee Reports.
Election of Officers.
Introduction of Officers.

1:00 p.m.—Luncheon—Heidelberg Hotel.
Solo—Mrs. T. A. Turner, Jackson.
Guest Speaker—Mrs. Eben J. Carey, Wauwatosa, Wis.; National President
Reading—Mrs. L. F. Boteler, Jackson.
2:30 p.m.—Post-Convention Meeting, Mrs. L. J. Clark, presiding.

COAST MEDICAL AUXILIARY MEETS

Mrs. James O. Lopez was hostess to the Woman's Auxiliary of the Harrison-Stone-Hancock Counties Medical Society in March. The reception rooms were decorated with spring flowers including some especially fine specimens of camellias from the family home of the hostess in Louisiana. Mrs. Joseph P. Evans, auxiliary president, presided over the meeting. Dr. Margaret Caraway and Mrs. Daniel J. Williams were appointed to formulate a resolution to be sent to Mississippi senators and representatives in Congress expressing the auxiliary's opposition to the Wagner-Murray-Dingle bill now pending in Congress. Other women's organizations will be asked to send like resolutions to senators and representatives.

Mrs. E. C. Parker announced that a fund of $100 is now available to the General Hospital Auxiliary for a library of required reading in connection with the nursing school. The auxiliary discussed the addition of a fiction section for the library at the nurses' home and plans were made for the donations of new fiction and magazines. Tentative plans were made for the observance of Doctor's Day in April.

A letter was read from the hostess of the 24th Avenue USO thanking the auxiliary for its hospitality to the service men. Mrs. F. L. Wright, wife of the new clinical director of her home auxiliary in Pennsylvania. Dr. Margaret told of work of the Jacksonville, Fla., auxiliary which she attended during her recent visit to Florida. Mrs. James F. Van Pelt was welcomed as a new member. Mrs. Charles McWilliams will be hostess to the March meeting at her home on East Beach. Following the meeting a social hour was held. Mrs. Evans poured at the lace covered tea table which was centered with a silver bowl of camellias and lighted by candles in silver candelabra.

Those present, other than the hostess, were Mesdames E. C. Parker, Joe P. Evans, A. C. Hewes, D. J. Williams, James Van Pelt, J. A. Hughes, H. Davidian, F. L. Wright, Dr. Margaret Caraway, and Dr. Charlotte Miller. Guests of the meeting were Mrs. M. E. Crask, grandmother of the hostess, and Miss Olive Sigur.

SOUTH MISSISSIPPI AUXILIARY

New officers of the Auxiliary to the South Mississippi Medical Society were elected following the annual meeting at the home of Mrs. H. C. McLeod in Hattiesburg, March 23. Mrs. W. W. Crawford and Mrs. Z. B. Graves were hostesses with Mrs. McLeod.

Officers elected are: Mrs. Crawford, president; Mrs. Earl W. Green, president-elect; Mrs. Eugene Busby, vice-president; Mrs. Seth Barron, secretary; Mrs. B. D. Blackwelder, treasurer; Mrs. Mable Mason, historian, and Mrs. V. C. Temple, reporter.

Mrs. R. E. Schwartz, retiring president, presided. Committee reports were read.

Following the business session Mrs. R. B. McLeod, vice-chairman of the local blood donor organization, gave a most interesting talk on "Blood Plasma."

Guests were invited into the dining room where a party plate was served. Mrs. Crawford served the congealed salad and Mrs. Schwartz poured coffee. Chicken salad sandwiches, nuts, pickles and olives were also served.

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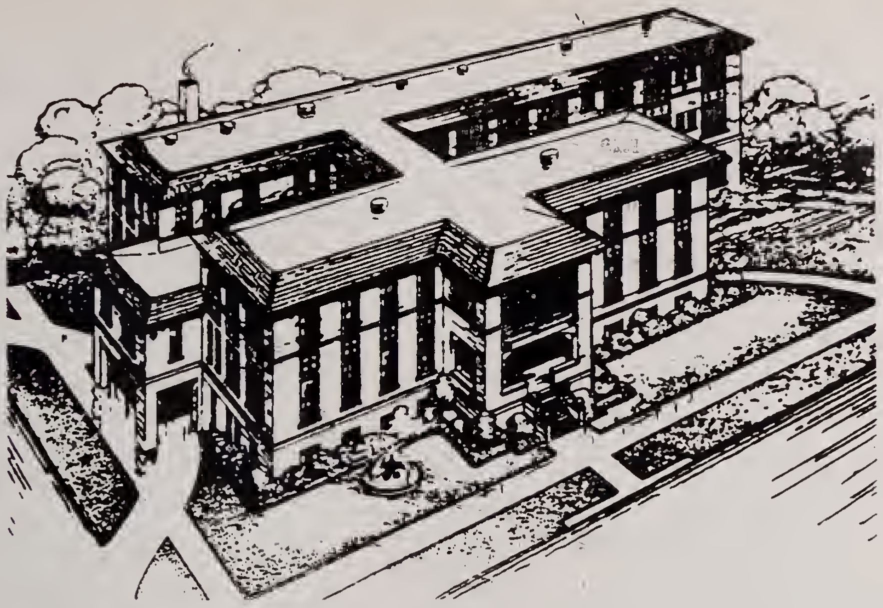

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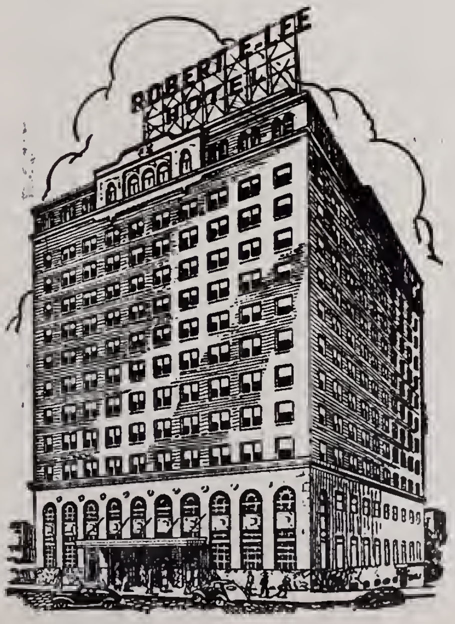

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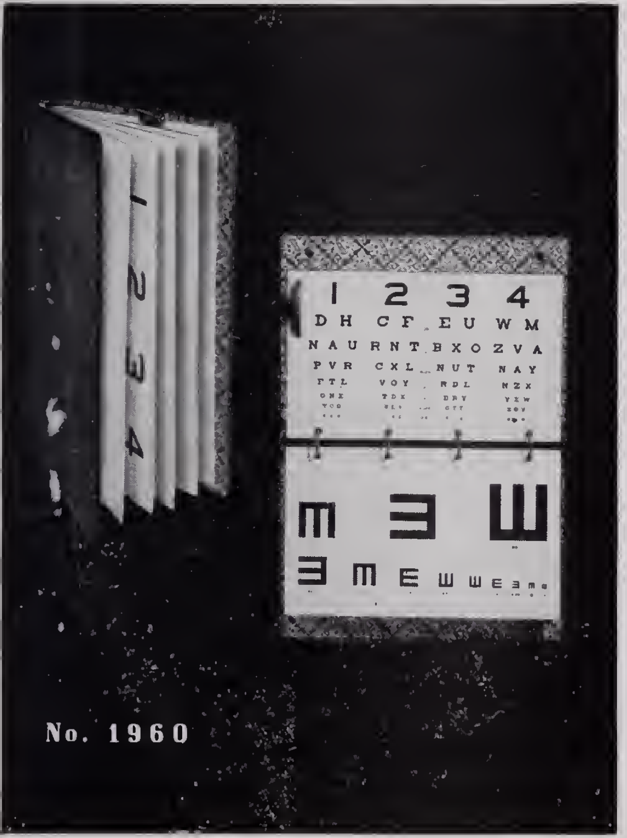

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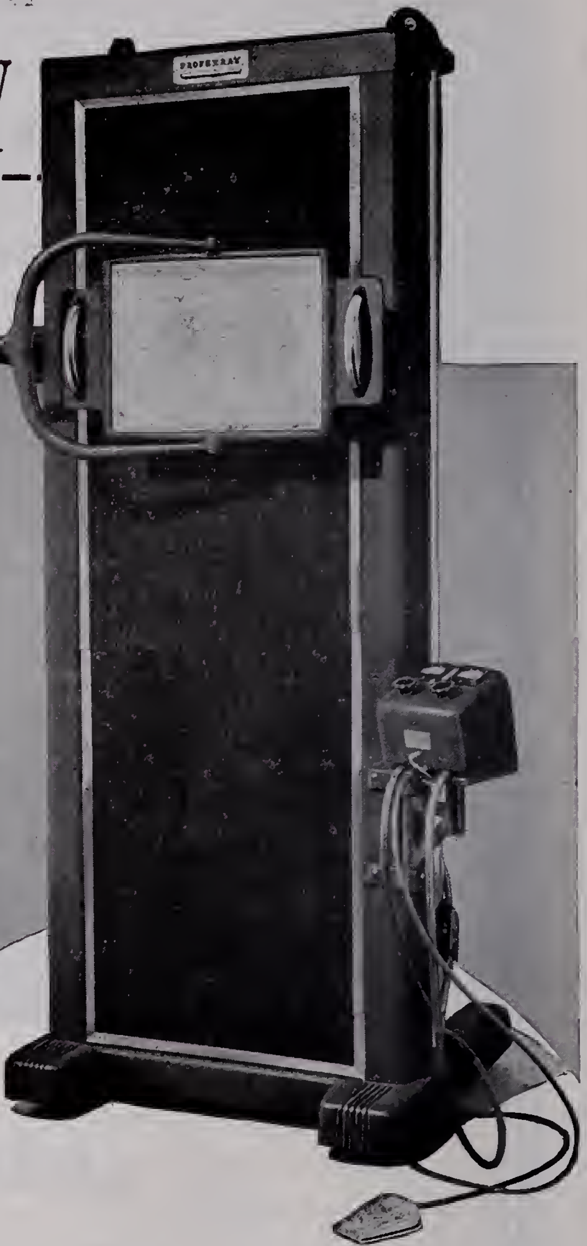

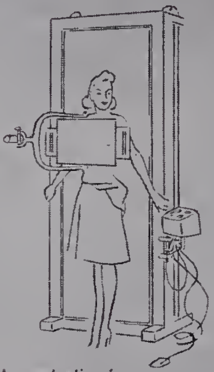

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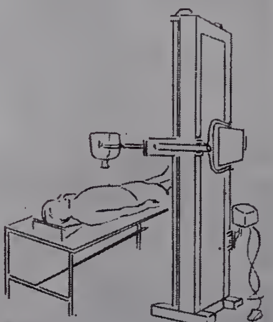

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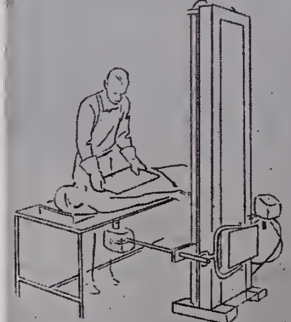

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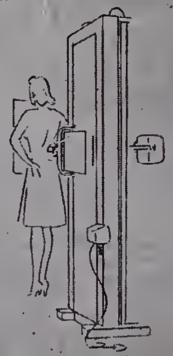

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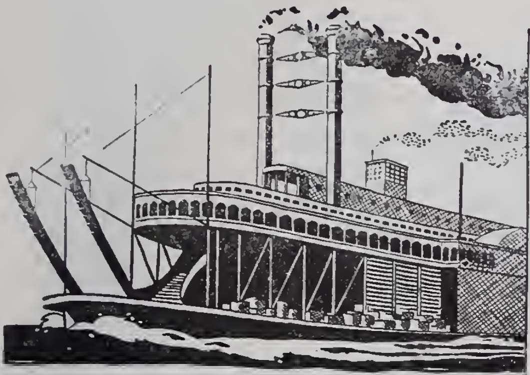

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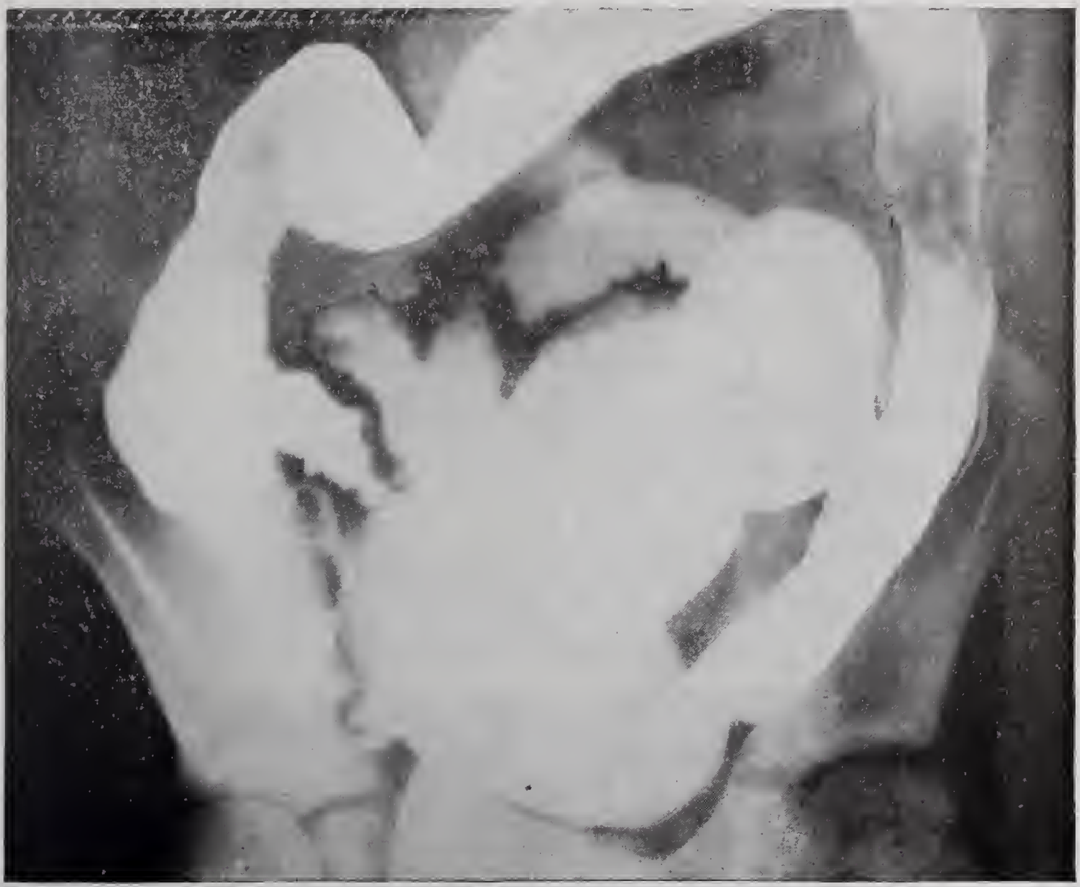

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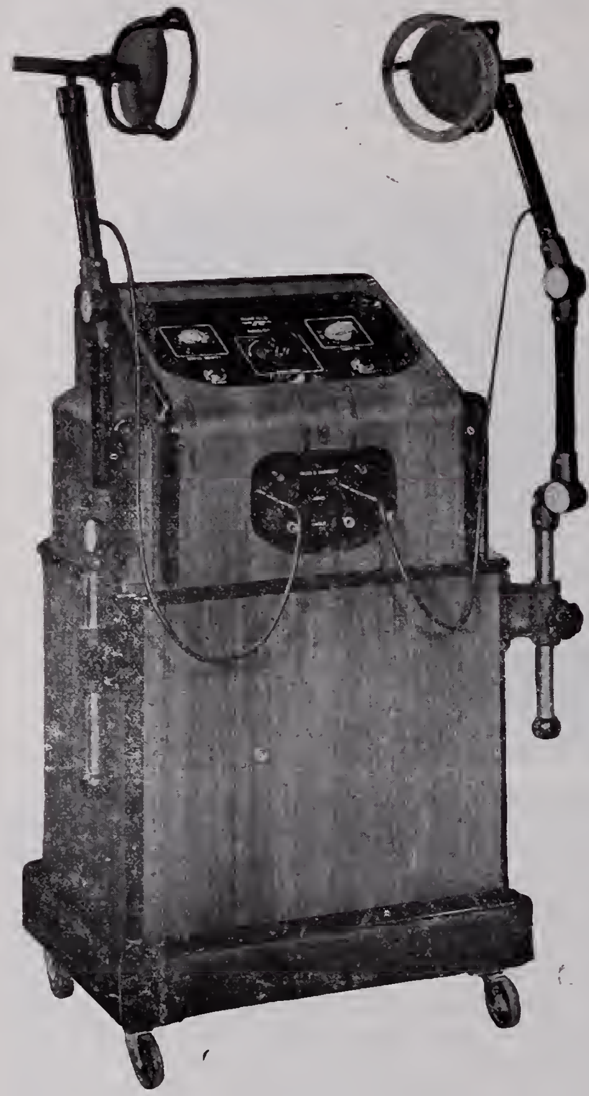

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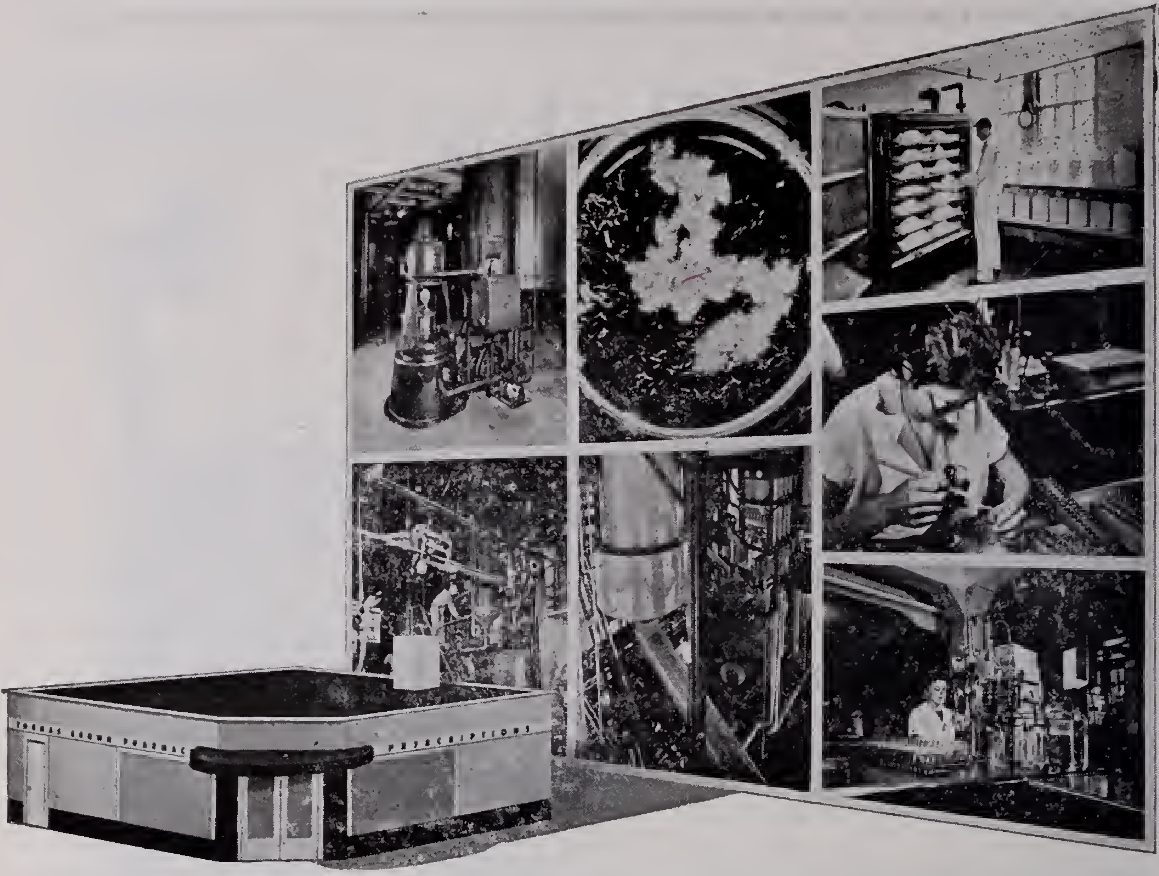

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"Carest Thou Not That We Perish?"*

E. LeROY WILKINS, M. D.
Clarksdale, Miss.

INTRODUCTORY

I have now come to what is perhaps the supreme moment in my professional life. And coming to that moment I am not unmindful of those who made it possible for me to become a doctor and thus eligible for this honor. Whatever honor I may have attained I now lay at the feet of the memory of a good country doctor, my dad, and my mother, her once golden hair, now silver gray, who sits among you this evening. To her, who has traveled at my side and held up my hands through the years, Dear, it is your hour too.

* * * * *

"Carest Thou Not That We Perish?"

When we hear this quotation we normally turn our thoughts to that storm on the Sea of Galilee and the fear of the Disciples when they awoke the Master and asked him that question. I am sure, however, that we can go much farther back in the scriptures and find the same question asked. It seems that Moses, commonly called the Lawgiver, was asked the question more than once. He proved himself something of a chemist and healer, after asking help from God, as do all good physicians to this day, as evidenced by his sweetening the waters of Marah by stirring them with the branches of a tree, and by his lifting up the brazen serpent to heal those who were bitten by the "fiery serpents." Both of these and many other acts, as striking the rock, etc., were in answer to the question, "Carest thou not that we perish?" It is not just ages old, but truly world old.

This same old question, asked again and again, is, it seems to me, the keynote, the guiding star, the beginning with the beginning, of our profession. We find definite evidences that efforts were made to act and show that there was a care on the part of certain persons many centuries before the coming of Christ. Early in the dawn of history we find them. We today subscribe to the oath and teachings of one Hippocrates who lived in the seventh century before Christ. They are still good to live by and to practice. I am sure that they will not be supplanted for many more ages. Then on down through the centuries we find others who were searching for the answer; Aristotle making his studies on biology; Herophilus, father of anatomy, and Erasistratus of physiology, who first dissected the human body in public, and recognized the brain as the center of the nervous system and the seat of intelligence; Aesculapius, just before the advent of Christ, we all remember as a searcher after the answer; then Galen in second century A. D. whose teachings were followed for more than a dozen centuries in Europe. Leonardo da Vinci came along with his art which was much used in teachings, and we today are getting back more and more to art, pictures, in the teaching and study of medicine. (Some thanks is due to Walt Disney and his animated cartoons.)

With the coming of advancement along other lines came also the further advancement of the search for the ability to command the waves of maladies to stand still and the storm of pain and suffering to abate. The discovery of our own continent brought an answer to some of them with its quinine, and tobacco (as a narcotic), and ipecac, among others.

In the sixteen-hundreds Sydenham gave us a name for a malady that was almost, if not quite, as severe and widespread then as now, and told us something about the spread of it. Syphilis. Santorious at about this time gave us the thermometer, which we now often wish he had not done, certainly not one that registered low degrees of fever in the hands of some over-anxious mother or others of the laity. And Harvey in the seventeenth century, still endeavoring to give the answer, told us about the circulation. Later on in the seventeenth century we were given our first glimpses in the miniature world of waves and storms by the advent of the microscope, and with it bacteriology and pathology. And still later, in the eighteenth, Galvani found electricity, without which we of today would be much in the darkness of the storm and overcome by the waves of many other illnesses and disadvantages.

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*President's address given at the seventy-seventh annual session of the Mississippi State Medical Association, May 9, 1944.

There are many others whose names we might mention who have done much to find an answer to the age-old cry. Our own Mississippi has not been left out of the counting. We have had a goodly number who should be mentioned with those other great, and who, have lived and died that mankind "might have life and life more abundantly." Gadberry, H. A. Gant, Monette, Gus Evans, Peter Rowland, Sutherland (of Rosedale). And I am sure that were it not for the fear of bringing embarassment to some of those here present this evening I could point out for you some who have just as surely, and just as effectively, stilled the waves and calmed the storms, thus giving an answer to the cry, "Carest thou not that we perish?"

Now that I have grown up among you, lacking only a few hours of being old enough to be an ex-president, and it is still my belief that all ex-presidents should be even older than I, I am beginning to see, and hear, that same cry coming from a different source. When I look over the roster of doctors in Mississippi and see beside their names the year of their birth, and then at the enrollment in the medical schools of our country, and see practically all of the youth of our land being drawn into the armed services for the protection of our country, and so little evidence of preparation for replacements, I too want to cry out "Carest thou not that we perish?" I thank God that the doctors of Mississippi seem to live long. You have just heard Secretary Dye read the list of those who were called to their reward during the past year. They had an average age of very close to three score years and ten. Yet, when we read the papers, we find that not a few doctors are passing on at the age fifty or slightly above.

In these times when the world is upset with so many things, and when people are prone to do like the Disciples did and call when the doctor is "asleep on a pillow," and with the scarcity because of the war and otherwise, there are times when the cry should come from the other side. Although it is now much easier than most of the time when my Dad practiced, riding horseback and in a cart, as some of you have done, there is some evidence that in Mississippi even present-day doctors, to say nothing of the "good old country, or family doctor," is a perishing, and certainly diminishing commodity.

What to do about it? I am sure that I do not know. I do believe that the recent enabling act by the legislature, looking to the building of more hospitals will be of much help. Will the establishment of a central hospital, and a four-year medical college in Mississippi quiet the storm? Will all our doctors come back to us after the war? Will doctors come from other areas into Mississippi? Enough community hospitals might help. Can the state furnish inducements without going still nearer to state medicine? Will the Wagner-Jangle-Jingle Bill be the cure-all they claim for it, and make fewer doctors necessary and be the answer? Will the sulfonamides and penicillin, and other drugs yet to come, so advance the healing art that we will not need for more doctors? Will the nurses become so proficient, when eight-hour duty becomes widespread or general, that they will relieve the necessity for the physician? Will some much greater thing come from Galvani's electricity, radar, etc., that will lessen the load or temper the wind? It is hard for us to slacken up in trying to realize our ideals and begin trying to idealize our realities when realities tell us that the greatest advances made since the last war have been made in the art of healing, but that along with them have advanced the art of killing. Can we be too much blamed if we are sometimes tempted to throw up our hand and cry out, "I care not if I perish!"

One thing I do know, and that is, for generations yet unborn the true physician will continue to awake from his sleep on a pillow and stand forth and issue his command to pain, to suffering, to disease, yes, even to death, and say, "Peace, be still." He will, through his great love, give his life and die, that mankind may live, and live more abundantly.

Yes, we do care whether they perish.

What Makes Our Medical Profession A Great Profession*

JOHN DARRINGTON, M. D.
Yazoo City, Mississippi

The science of medicine is the science which was fathered by Hippocrates of ancient Greece, and which has been built into the world's greatest profession by many eminent physicians. It is the science which began in superstition and magic; which became real by challenge and discovery, and which now progresses through experiment, deduction and the diffusion of knowledge. It is the science which has enabled civilization to spread over the world by conquering the disease enemies of mankind.

What is the science of medicine? It is the science which makes physicians of those who follow its teachings and principles; which requires of its followers that they devote themselves to it wholeheartedly, night and day, and which makes them counselors to mankind in time of physical and mental illness. There is no greater work, no greater profession, no greater science!

I would like to see a questionnaire sent out to the medical student asking him why he chose medicine for his life work, medicine which demands so much in preparation, so much hard work throughout life, with such relatively small financial return. I surmise one would find many a different answer and many of these not very substantial. As for me, I suspect that the dominant reason, though perhaps subconscious, was the desire to belong to the profession, in the atmosphere of which I was reared. In such an atmosphere there were no illusions that the practice of medicine meant an easy life or that through it any considerable wealth might be obtained. Nor did I ever hear a cant about medicine being a beautiful humanitarian profession. Indeed, I do not remember such a thought ever entering my mind. But it was a profession which held those whom I most admired. I have never had occasion to regret my choice. In what other activity could I have found associates so much to my liking? I can agree with the statement made many years ago by W. D. Howells. He comments that "doctors are almost universally gentlemen, either because they were born so, or because the Hippocratic Oath makes them so."

Within the medical profession it has been my great good fortune to know men of the highest ideals and culture, and in general, to find in the profession a great friendliness. Our common interests bind us together, and although we frequently disagree, there is today, as there has been throughout the centuries, to use Osler's words, a "remarkable solidarity."

As a profession we have back of us long centuries of tradition. Coming out of the dark ages we find medicine largely in the hands of the Jews and Arabs, but now it becomes part of the activity of the educated group of that day, the clergy. In spite of the abuse it received from the grasping monks, it was to remain, more or less, controlled by the church for a considerable period. But control by the church and the state did not lead to the desired advancement of the profession, and so came about, in the early thirteenth century, the formation of the guild of physicians. From the beginning the guild maintained a code of ethics, and enforced to a greater or less degree, obedience to its rules. It was influential in setting a standard of practice. Through its efforts there came tobe licensing of the physician by the state, and one of the first recorded institutions, the Faculty of Salerno, required as early as the thirteenth century three years of logic, five years of medicine and one year of study under a preceptor, as qualification for the license. It is interesting to note that in England in the early sixteenth century, under VIII, the licensing body for "London and seven miles around" was the the College and Faculty of Physik of London, a permanent institution which more than two centuries later was to become the Royal College of Physicians.

Among the great professions the physician occupies a commanding place. For unselfish and devoted service, for the highest expression of generosity and good will, the physician occupies a place quite incomparable. The story told by Ian MacLaren in the "Bonnie Brier Bush" of old Dr. McLeod is not exaggerated or overdrawn. It is a tale that may be duplicated in any community. One must believe concerning men of this type that they are motivated by the highest of impulses.

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*Annual oration delivered at the seventy-seventh session of the Mississippi State Medical Association Jackson, Miss., 1944.

Great and indispensable as the medical art is, it is something more than skill that constitutes the genius of the true physician. It is love of humanity, a desire to do the utmost, at any cost, to alleviate human suffering and restore the afflicted to wholeness of being.

A doctor is not a superman or a magician. He is a human being, with human sympathy and understanding, working within the limits of scientific knowledge. But he achieves victories today which, only a few generations ago, would have been called miraculous.

With the help of modern scientific equipment, with a fund of coördinated medical and surgical knowledge undreamed of even by our natural heritage of mankind. You can cure grandfathers, you doctors can prevent diseases that were once supposed to be the diseases which were once unqualifiedly labeled "fatal."

The service that medical science renders is often obscure and unnoticed. It receives little of the world's applause and often-times too little of compensation. The unwritten story of what transpires in the hospitals and frequently in the homes of humble and neglected folk is one that never has been adequately told. There is no form of philanthropy of which we have knowledge comparable to that which is repeatedly exhibited by the healing profession. Doctors and nurses render a service of such high order that we find it impossible rightly to appraise it.

Charity is an eminent virtue of the medical profession. Show me the garret or the cellar which its messages do not penetrate; tell me of the pestilence which its heroes have not braved in their errands of mercy; name to me the practitioner who is not ready to be the servant of servants in the cause of humanity, and whose footsteps you will find in the path of every haunt of stricken humanity.

Rightly conceived and practiced, it is a ministry that deals with the whole man, body, mind and spirit. We have known physicians whose presence in the sick room meant as much, if not more, than all that they had prescribed. In their approach to the sick they imparted both confidence and renewal. They penetrated the mind of the patient and dispelled both fear and anxiety. Their word of encouragement meant more than their medicine. They were restorers of the soul.

The physician's ambition has ever been to relieve and prevent suffering and illness and the unhappiness that goes with such conditions. By precept and example it has taught the neophyte that it was his obligation to sacrifice his comfort, yea, even his health, if, in so doing, he could alleviate the suffering of others. No group, and I do not except the clergy, has held higher standards of morality. No group has striven more earnestly for the advancement of science. For centuries the profession has preached education and more education, has fought for higher licensing requirements, has urged better schools and better teachers, and today, still unsatisfied, we promote postgraduate centers and even bring the postgraduate teaching to the door of the doctor too occupied to go to such centers.

The medical profession has always felt that the interest of the patient is the first and paramount factor in the handling of disease. It has always believed that the high standards of education must be upheld for those who presume to treat the sick and the injured. It has always insisted that the study of disease, of learning about disease should be given to the profession through its publications. The doctor discovers a way of curing disease and the news is spread widely without any thought in the mind of the discoverer of obtaining monetary returns. A new operation is devised or a new instrument is made, but the new operation or the new instrument is gladly offered to the profession without check or limitation. Doctors have fought unselfishly for generations against disease and it is due to their efforts that life expectancy has been so markedly increased, that so many diseases have become conquerable.

The physician has cooperated with health departments, with authorities in schools and with newspapers, radio networks and other means of public information to spread widely the knowledge of the nature of disease and of the methods of prevention. Thus the physician is perhaps the only worker in all the world who spends most of his time destroying the conditions by which he has gained his livelihood. Vast numbers of people now share the knowledge of medicine, which is no longer held a mystery. The frontiers of medicine are constantly changing. Medicine is a living, vital science, constantly moving to attack new problems that arise. It has given vastly of itself to mankind in the past, and it stands ready to give more, if it can, in the future. It makes to mankind no promise of immortality or even of eternal youth; but it does offer to those who are ready to receive its gifts, increasing years of usefulness.

The letters M. D. are a symbol of civilization's achievement in protecting humanity.

Civilized society says, "the title 'Doctor of Medicine' is my precious gift to those who will sacrifice many years of their lives to win the knowledge and the skill that science has built up to guard my people against illness."

The letters M. D. identify the chosen few who have made this sacrifice, and are qualified by experience to advise, prescribe and care for mankind whenever illness threatens.

Florence Fisher Parry writes: "Nothing can take his place—no priest nor minister nor all the clinics that science can provide. There is a rapport and a confidence between him and his patient which has been known to accomplish miracles, and restore to the breasts of mothers, babies about to die, and to the arms of lovers, beloved ones turned back from Death. There's something about the very presence of the Doctor that casts out fear, melts apprehension, breaks down suspense, performs the simple miracle of Faith."

What is it that has enabled the men of medicine to accomplish so much in blessing humankind by the alleviation of physical woes? The question may well be answered in the language of the ancient sage, who once wrote these immortal words: "Interest does not bind men together: interest separates men. There is but one thing that can effectively bind people, and that is a common devotion." There are a number of loyalties in life—those to a nation, to a college, to the community in which we dwell, to our family, and to our friends—"all of which are somewhat akin; yet there may be something of personal interest, prejudice, or defense in these particular reactions which makes them not wholly unselfish." Devotion, on the other hand, may be likened unto that charity so beautifully delineated by the man of Tarsus—for devotion suffereth long, and is kind; devotion envieth not; neither is it boastful; nor does she become puffed up. Devotion doth not behave herself unseemly; she blazeth not forth in passionate anger, nor broodeth over wrongs. Devotion beareth all things, believeth all things, endureth all things. Devotion maketh herself of no reputation, but taketh upon herself the form of a servant. Devotion never faileth. Thus it is that devotion implies a higher standard of selflessness than do ordinary loyalties, and bears upon the altar of her breast a sacrificial offering that burns eternally for the welfare of men and women and little children. Devotion is the doctor's consecration to his task. It is a sort of blood kinship with those who have been led into the Temple of Pain.

This is the true spirit of medicine. It is this that casts out the devils of disease. Devotion, wedded to true science, has won for many a tortured soul freedom from agonies unspeakable, and restoration to the hearth of health.

The medical profession today is one of the few remaining groups that cling to the traditions for which blood has been shed from Bull Run to Tarawa. It begs to be let alone, to carry on according to its honorable principles without interference from bureaucratic and governmental infringements.

The medical profession still believes in the American conception of human rights and liberties, which have been the foundation and inspiration of progress. Above all, we seek that which is best for our patients. If there is a better way to practice medicine, we want to practice it that way, but we feel sure that practicing medicine under a system of political control is not best for our patients. We do not want medicine placed on a factory production basis. We want to live by that code which has come down to us over these many centuries, and we want to feel that there is a personal side to the practice of medicine, for that is the heart of medicine. When we urge voluntary insurance instead of compulsory insurance, we have in mind always that the patient under this plan will have the free choice of physician. For him it means that he is free to choose the kindly sympathetic doctor who understands both him and his disease. For the doctor it means competition with his fellows, the incentive to study and the incentive to work hard that he may continue to excel.

My fellow physicians, we are servants of humanity and have a humanitarian service to perform which can be accomplished by organization, coöperation, education, devotion and freedom, and it is this coming together of earnest men—each with his individual problems and experiences, but all with a single engrossing purpose—which keeps our beloved science abreast of the times and ever ready for the next forward step. The full and candid presentation of our varied experiences—our mistakes and failures, no less than our successes—makes possible intelligent comparison, stimulates suggestion and leads to discussion out of which each of us surely may gather somewhat of profit.

Two widely antagonistic forces are striving for dominance in America. On one side, it is the desire and ambition of the individual to live his own life and carry his own responsibilities and secure the utmost mental and material development, while on the other is the ambition to have the people subjected wholly to hard ideas whether advantageous or otherwise—with only an inner certitude, a personal sense, necessarily imperfect, that the way the herd is directed is also the best way. The contest is between individuality and regimentation and while regimentation with its attendant oppression has secured high place among decadent nations of Europe it will be fought bitterly in an America which has grown great through private initiative.

On June 3, 1943, Senator Robert F. Wagner of New York for himself and Senator James Murray of Montana, introduced in the Senate Bill 1161.

If the recommendations are enacted into law, they will destroy the private practice of medicine in the United States.

Senate Bill 1161 might seem to offer a painless panacea for most misfortunes; but further scrutiny of this so-called "general welfare" bill uncovers a number of implications of tremendous magnitude.

It proposes to establish among other supposedly social benefits a federal system of medical and hospitilization benefits. In this respect the bill would place in the hands of the surgeon general of the Public Health Service, after consultation with the Social Security Board, and with the approval of the Federal Security Administration, the power to make and publish all rules and regulations relative to the administration of the federal medical and hospitalization benefits. This authority granted the surgeon general appears to include the determination of qualifications for designating specialists.

With the inclusion of more than 100,000,000 people in the United States under such a program, it becomes apparent that the private practice of medicine as now constituted would fade into history. Postgraduate courses in politics conceivably could be considered a necessary part of medical education under such a system. A physician's politics under this type of state medicine would stand to profit him more than his professional qualifications. It is easily discernible how public health stands to suffer through a régime as would be instituted under Senate Bill 1161.

Regardless of what may come, it is well to remember that if the government cannot administer medicine any better than it administers its various bureaus; if it indulges in waste in medicine as is the case with the administration of its various functions; if it has as little regard for ability in its physicians as it has in its servants, I fear the health of America would be in serious jeopardy. We are asked to turn from the system of private practice to some form of socialized or state medicine; to follow the lead of Germany or England. We crossed the ocean once to get away from the lead of European countries, and by adopting different customs and ways, built here the greatest civilization in history. By means of a calm and dispassionate mashalling of facts, let us redouble our efforts to convince the public that socialized medicine is "dehumanized" and "poor-house" medicine.

Progress is not automatic. The world grows better because there are high-minded souls, who wish that it should and because they will and dare to take the right steps to make it better. This is what the American Medical Association has been doing for years and is continuing to do for the medical profession and those it is our pleasure to serve.

The health of mankind is inextricably bound with every social and economic problem that arises. It would, therefore, be folly to deny that the government has any stake in the health of the people. A state, however, is made up of individual citizens. Psychology teaches us that progress depends largely on the maintenance of individual invention, ingenuity and initiative.

Already the dangers of too great centralization of complete bookkeeping and responsibility for handling of funds in Washington are beginning to be apparent. We may yet see in this kind of social security the greatest financial fiasco the world has ever known.

There is a place for government in medicine. It is the place of the government to govern; to decide the rules by which the game should be played. It is not the place of government to make the rules, play the game, and umpire all at the same time; and besides to make the people pay, and most often pay excessively, for participating in the spectacle. Doctors must practice medicine because that is the doctor's job.

But whether for weal or woe, the problem of state medicine is close at hand and must be met. The modern doctor has become a modern Hamlet. He is facing the dilemma that confronted his Shakespearean prototype three centuries ago, "To be of not to be." His professional practice, even his economic existence, is at stake in a stricken and changing world. He is sailing a battered ship on a stormy sea. Shall he "take up arms against a sea of troubles, and by opposing, end them?" Or shall he seek a lighthouse and a harbor and make an unhappy landing?

Half Century Clubs*

W. A. EVANS, M. D.
Aberdeen, Miss.

Medicine emerged from the realm of the gods through the channel of mythology. Through Aesculapius and Hippocrates, it travelled from the mythological gods to the society or fraternity at Cos—a journey from above downwards—from the gods to the medical society, from a head or leader to the shoulders of the members of the fraternities.

Moving down the centuries, we find a powerful society supplying leadership in Great Britain for a period prior to and around 1827. This society went by the name of The Gold Headed Cane.

There is an extensive literature about this society of leaders organized to foster leadership more than anything else. Much of this literature was published through the Johns Hopkins Press. Of this literature is a **History** of the **Gold Headed Cane** by C. W. G. Rohrer[1] and one by William MacMichael.[2]

As to a successful club which bears the name The Gold Headed Cane, I quote from a letter written by Dr. Merrill Wells of Grand Rapids, Michigan:

> The Gold Headed Cane, sponsored by the Kent County Medical Society, here in Grand Rapids, was purchased some twenty-five years ago and presented to the oldest living member, whose name was engraved upon it with the plan that it should be handed on to the oldest member.

In the **History of Medicine** by A. Castiglione[3], we read

> In 1827 this particular cane passed through the hands of Radcliffe Mead Askew, William and David Pitcairn, and Matthew Baille, whose widow presented it to The Royal College of Physicians.

Harry Cushing[4] wrote:

> On one of the regular meetings, Osler took part in a symposium on the six holders of the gold headed cane.

Probably each of us around this table would like to extend the list of men worthy of this cane to N. S. Davis, William Osler, William H. Welch, and W. J. Mayo, and Rudolph Matas, and several others.

In Welch's[5] account of the medical history of New York, we read:

> Bard Hoosack and Francis, each the foremost physician of his day in this city, belong to the medical lineage of John Radcliffe and Richard Meade, and had the gold headed cane crossed the Atlantic, it would have descended in succession to

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*Address given at the first meeting of the Half-Century Club, which met at a luncheon, Dr. W. H. Anderson of Booneville host, at the Robert E. Lee Hotel in Jackson, Tuesday, May 10, 1944.

> them. . . .Had Baille sent it across the Atlantic to New York, among those to whom the custody of it would have been engraved upon it, with the plan that it would be handed on as these men passed away to the next oldest member, etc. Dr. Boyce of Grand Rapids was the first to be thus honored, and the present holder of this cane is Dr. A. B. Thompson, Sr. of Grand Rapids, who practiced medicine in this vicinity for more than fifty years and is still quite well at his advanced age, but not in active practice.

In nearly the same period and following somewhat kindred lines there was in this country a medical fraternity with a Greek letter name. One chapter of this fraternity was located at Transylvania Medical College and to it belonged our John W. Monette.

This American fraternity had chapters in New York and Philadelphia at least. The New York chapter was one cause of the New York City medical riots of a century ago. Soon after those riots, the Philadelphia chapter dissolved, placed all their papers in a box which they then fastened and sealed and left marked, "not to be opened." in the hands of an ancestor of the Philadelphia Medical Society.

I have long had an idea that sufficient delving would establish a relationship between the New York chapter of this fraternity and the organization of the New York State Medical Society. That state medical society was the spiritual progenitor through N. S. Davis of the American Medical Association.

The American Medical Association was organized: to supply leadership to medical men, to improve the quality of medical service, and to bring order out of chaos among medical men.

The urge to supply trained leadership is just what one would expect of a society which had its early roots in the fraternity of which John W. Monette was a member.

This, our national organization, functioned as not much more than a fraternity of leaders until the early part of this century when I was president of Chicago Medical Society forty-two years ago, and was trying to expand it from a fraternity of leaders into a democratic organization in which would be found all the respectable members of the medical profession practicing in Cook County. I was opposed by a prominent member, an ex-president of the American Medical Association. This gentlman said he wanted the Chicago Medical to remain a group of one to two hundred leaders, each a man of such social and mental qualities that he would be willing to have him put his legs under his (their leader's) table on terms of social equality.

On the other hand our group, then dormant, were striving to make Chicago Medical Society one "of the people, for the people." We succeeded. A like transformation followed in the American Medical. Superficially, it appears paradoxical, but the American Medical achieved the peak of its fame for scientific achievement and scientific leadership as it became popularized.

Affiliated with the American Medical are a large number of organizations such as The American Surgical Society of Internal Medicine, American Public Health Association, the various state and local societies—to mention only a few of the long list. Each subserves a purpose that is better subserved by an auxiliary society.

A need that has not been adequately met is for an organization to serve physicians who have been in practice fifty years or longer. About 1930 Dr. W. J. Mayo wrote of the change in type of work which became advisable when a surgeon passes the seventy-year milestone. The papers and discussions in the parent society are mostly about newly recognized diseases, new technical problems, new methods—subjects which oftentimes leave the old boys bewildered; the interests of the young boys are generally different from the interests of the old boys. The old boys find the young boys running things, and the old boys miss their old power as well as their old friends. The old boys get lonesome. These old boys head towards self-elimination by first keeping quiet during discussions. Next, they lose interest. They do not attend meetings. Next, they resign their membership, and lastly, they quit fraternizing with physicians entirely.

In this state, there must be more than a hundred in this group and at least another hundred that can be seen headed in the same general direction. Can the state medical society and its affiliated county and district societies do anything to correct this trend, to meet this need? Can they organize an auxiliary group composed of men in practice fifty years and over who will be interested in geriatrics, the problems of senescence, and senility, in various hobbies, and even in comradeship and companionship alone?

A moderate number of societies for older people have been organized. Some are for physicians only; some are for elderly people of all walks. Among these are: Borrowed Time Clubs, Three-Quarters of a Century Clubs, Gold Headed Cane Clubs, Fifty Year Clubs.

The Illinois Medical and its affiliated local societies has a seven-year-old Fifty-Year Club which exactly fills their needs. One along the same lines should fill ours.

In that state this organization keeps several hundred older physicians who would otherwise have fallen away from state and local societies; it keeps them attending meetings and maintaining active enthusiasm and interest and anticipation.

I extract the following from reports on and letters written about this society by Dr. Andy Hall, ex-president of the Illinois Medical Society and of the Illinois Board of Health, the man who has made the Illinois Fifty Club his hobby and in doing so has made it an outstanding success.

> The Fifty-Year Club was organized by the Council of the Illinois Medical Society in 1938. It now has a membership of 231 and the average attendance at the annual meeting and luncheon is around seventy. This meeting is held at the place and time of the annual meeting of the state medical society. This club is a phantom organization without officers, dues or meeting except that I, as my hobby, call a luncheon meeting during the state society meeting and stimulate attendance. Those physicians in the state, whether members of the society or not, who have been in the practice of medicine for fifty years or more and whether active or inactive but if recommended by their county societies, are eligible for membership. The county medical society holds a testimonial meeting for the oldest member, votes to pass him to emeritus membership and recommends him to the Fifty-Year Club of the state society. They approve the recommendation, send the honored member an emeritis card for his pocket, and a membership certificate to be framed for his office and a fifty-year button for his lapel. At the annual meetings of the club, members display their hobbies, make talks and read papers. I made the remarks when Dr. S. E. Munison was recommended by the Sangamon County Medical Society: 'In appreciation of your more than fifty years of service I have been directed by the Illinois Medical Society to welcome you into the Fifty-Year Club and present you with a lapel button and certificate to which the members of this club are entitled. The button is inscribed Illinois Medical Society Fifty Years. The certificate reads: 'We desire to offer you our sincere congratulations as a member of the Fifty-Year Club and it is our hope that you will continue to be as useful to humanity in the future as you have been for so many years in the past'."

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Experience with Caudal Analgesia in Obstetrics*

S. B. PLATT, M. D.
Columbus, Miss.

A step forward in obstetrical analgesia has been made with the popularization of a method of introducing procaine below the spinal canal around the group of spinal nerve filaments in the caudal region that supplies the parts concerned with child-bearing. This is done by injecting procaine into the caudal canal at the junction of the sacrum and coccyx.

The subject of caudal analgesia has been the source of quite a bit of lay publicity, which is unfortunate for two reasons. In the first place, it has been written up with the usual news-article adjectives and style, creating the impression that there should be no more pain connected with obstetrics. So strongly has this impression been made that the average layman refers to caudal analgesia as "painless childbirth." In the second place, this publicity has created such a popular demand on the physicians for its use that many physicians have used it before properly acquainting themselves with the technic and dangers involved. As a result a number of reports of accidents and deaths have been made. Fortunately as the profession becomes better informed there are fewer accidents and complications and the percentage of successful cases is increased.

HISTORY OF CAUDAL

The history of caudal analgesia dates back to the latter part of the last century when it was first used in the treatment of enuresis. Later it was used in surgery of the rectum, G-U tract, and lower extremities.

Single injections were used in obstetrics as early as 1922, but it remained for Hingson and Edwards, on January 6, 1942, to adapt Lemmon's method of continuous spinal anesthesia to caudal anesthesia and use it in obstetrics. Thus it became possible to use it not only for delivery but for labor as well. The history of the development of continuous caudal analgesia has been described in detail in numerous medical reports and will not be discussed in detail here.

COMPLICATIONS OF CAUDAL ANALGESIA

Because of its importance we are devoting a considerable portion of this paper to a discussion of the complications that may arise from the use of caudal analgesia, after which we will discuss the advantages, the technic and the contraindications.

The most serious complication of caudal analgesia is injecting the procaine into the spinal canal so that high spinal anesthesia results. Normally the dura mater does not extend below the level of the second lumbar vertebra, but occasionally it comes down into the lower part of the sacrum. These latter cases fortunately are rare but must be borne in mind constantly if one is to avert this most serious complication. In using the ordinary three-way stop-cock and Luer-Lock syringe as advocated by Hingson and Edwards, two methods are suggested to detect this mishap.

First, when the needle is thought to be properly placed, and before injecting any procaine, a syringe is attached to the malleable needle by means of a small rubber adapter and the plunger is pulled back to determine if any spinal fluid can be aspirated. This, however, is not always sufficient, because several cases have been reported where massive spinal anesthesia has resulted even when this precaution had been observed; thus it is important to inject some six or eight cc. of procaine at first, and wait ten minutes to make sure that no signs of high spinal analgesia appear. If, after this length of time, the patient can still move her toes, it is safe to assume that the procaine is not entering the spinal canal. However, even these precautions do not eliminate all danger. There have been several cases reported where the caudal had progressed satisfactorily for an hour or so and then massive spinal anesthesia would result. Sometimes this was the result of the needle being inadvertently moved, and so the idea of using a continuous drip method was advised.

The advantage of this method is in the

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*Read before Northeast Mississippi Thirteen Counties Medical Society, upelo, Miss., Dec. 14, 1943 fact that the caudal canal offers more resistance to fluid entering under force of gravity than does the spinal canal. Thus with the flask placed four feet above the patient the fluid should not drip faster than 150 drops per minute, in fact, we have found the number of drops per minute to be considerably less than a hundred. If at any time the rate shows a sudden increase, or if the original rate exceeds one hundred and fifty drops per minute, the flow of procaine should be stopped and signs of developing spinal anesthesia be watched for.

The first sign will be loss of motion in the toes followed by a progressive paralysis of the lower extremities. If these develop the patient should be supported in an upright position and a spinal puncture done immediately. One hundred cc. of spinal fluid should be withdrawn so that most of the procaine will be removed before absorption. If any difficulty is experienced in obtaining this amount of spinal fluid, hypotonic saline should be given intravenously. The ordinary hypertonic glucose would reduce the amount of spinal fluid and so cause more rapid absorption of procaine. A 0.45 per cent saline solution is recommended as probably the most readily obtainable hypotonic solution.

Another danger of caudal which must be constantly borne in mind is the patient who is allergic to procaine. This, fortunately, is very rare and if one questions his patients for any leading history along this line and then injects the initial six or eight cc. of procaine as mentioned above to detect massive spinal injection, trouble with allergy will be negligible. As a precaution in this matter we have adopted the routine of adding adrenalin to our initial injections of procaine, unless there is hypertension or some other contraindication.

In addition to the above mentioned complications there are others which, while less serious, are worthy of mention. Infection is very prone to occur in this region unless strict asepsis is observed. Also it is very important to be sure that one is in the caudal canal before much procaine is injected. We have had two cases of abscess over the sacral region which we feel may have been caused by injecting large quantities of procaine into the tissues rather than into the canal.

However, in spite of all these possible complications, we feel that the advantages of caudal far outweigh the disadvantages. We did our first continuous caudal on January 27, 1943, and since that time have attempted a total of one hundred and twenty-nine cases. Out of these we feel that we have obtained a reasonable amount of relief in one hundred and four cases. Naturally our percentage of failures was much larger in the beginning than later and our results are constantly improving. In this series we have had seven breech presentations, one face presentation, one set of twins, and one hydrocephalus. We have had no maternal deaths and no fetal deaths attributable to the anesthesia. One of these patients had had a radical Sturmdorf operation and was delivered without any complications.

ADVANTAGES OF CAUDAL

Of course the most outstanding advantage of caudal, as far as the patient is concerned, is the prolonged relief from pain. This is not simply amnesia, for the pain impulses are blocked, so that they never reach the brain centers. The difference is very striking when a patient who has had caudal is placed in the same room with one who has had one of the amnesive drugs. The caudal patient is not only brighter and happier over her blessed event, but she is usually ready to take nourishment, and is more apt to relax sooner.

The next advantage of caudal is the rapid dilatation of the cervix due to the relaxation of the circular muscle fibers. This means that the first stage of labor is considerably shortened. Close observation is required here, because after complete dilatation of the cervix the membranes often have to be ruptured and the patient instructed when to bear with the contractions, or progress will be markedly impeded.

This leads us to the next advantage of caudal, namely: that precipitate deliveries are very very rare. Not only is this an advantage to a busy practitioner but it means that you can have complete control of progress as the head comes over the perineum, thus often avoiding a tear or the necessity for an episiotomy. In fact, this stage of labor is sometimes unduly prolonged especially if an uncoöperative patient will not bear to her contractions properly. In this case we quite often have an assistant exert some pressure on the patient's abdomen, or else apply low forceps and lift the head over the perineum, which is usually perfectly relaxed. In many cases the perineum is so relaxed that molding of the head is negligible and application of forceps is much simplified. Also it is reasonable to assume that a cervix and a perineum that have been relaxed by blocking their nerve supply instead of being overcome by force return more nearly to their normal condition. This is a factor well worth considering when we stop to think of the number of ailments and complaints attributable to injured muscle fibers of these areas. I believe in the future this method of relaxation will result in far fewer patients coming to surgery for perineal repairs.

WHEN TO BEGIN THE CAUDAL

In judging when to insert the needle to begin a caudal it must be borne in mind that the chief aims of the procedure are to relieve the patient of pain and to ease the strain on the obstructing muscle fibers caused by the pressure from above. Neither of these aims can be accomplished until labor is well established so that we usually wait until the patient complains with her pains and until there is at least three or four centimeters' dilatation of the cervix. Earlier insertion of the needle is liable to result in complete cessation of labor, and a much less grateful patient, as she does not realize the severity of the pains from which she has been relieved until she has experienced a few pains. We have also noted an increase in the number of abnormal positions under caudal, which is presumably due to the early relaxation of the soft parts with a consequent failure of the fetus to rotate properly.

TECHNIC OF INSERTING NEEDLE

When the above conditions have been met and it is decided to begin the caudal, I usually carry my patients to the delivery room. This is not always necessary, but I find it easier to move them then than later; and if any accident should happen we are better prepared to handle it in the delivery room than in her private room. The patient is placed on her left side with her back close to the edge of the bed and the sacral area prepared as for any surgical procedure. An attempt is then made to palpate the sacral cornua, which are two bony prominences formed by the lateral walls of the caudal canal. If these can be found the rest of the procedure is relatively simple. A hypodermic needle and syringe is used to raise a wheal in the skin with procaine. A slightly larger needle is used to inject the subcutaneous tissues and deeper sacro-coccygeal ligament then the malleable caudal needle is carefully inserted.

If the sacral cornua cannot be palpated it is best to place the patient in a modified knee-chest position. This is true because usually the the patient on whom the cornua cannot be palpated has quite a bit of excess fat in this area and when placed on her side the tissues sag, making it very difficult to locate the midline or get the other necessary bearings.

When the needle is properly placed it should be very easy to inject the procaine, but if there is any doubt the palm of the left hand is placed on the patient's sacrum over the area where the point of the needle is estimated to be, and while injecting procaine with the right hand the left hand is alternately pressed against the patient's back and released. If the procaine is going into the tissues the pressure will be reflected against the plunger of the syringe. Or, if the Murphy drip technic is being used the flow will be stopped entirely.

CONTRAINDICATIONS TO CAUDAL

Contraindications to caudal are rare but should be considered. (1) Placenta previa should never be subjected to caudal, since the relaxation of the cervix would result in hemorrhage. (2) Any disproportion between the pelvis and fetus cannot be remedied and should not be attempted under caudal. (3) Any local infection in the area to be injected (furunculosis, carbuncle, infected pyolonidal, cyst, etc.) is very dangerous and so should not be subjected to caudal. (4) A low-lying dura as demonstrated by aspiration or any signs of spinal anesthesia should be considered unfit for caudal. (5) Any deformity of the sacral canal that would make repeated attempts to insert the needle necessary is a contraindication. (6) History of sensitivity to procaine on former occasions should be self evident.

Other conditions which may or may not make apt subjects for caudal and will have to be decided by the merits of the case and the judgment of the operator are: 1) unusually obese patients, 2) the highly nervous or hysterical patient, 3) cases in which repeated

THE PROBABLE PLACE OF CAUDAL IN OBSTETRICS

Because of these contraindications and the difficulty in technic, caudal analgesia can never be the universally accepted obstetrical analgesic. On the other hand its advantages should not be overlooked. In the early stages of spinal there were numerous reports of accidents, a large number of which were due to faulty technic, which are rarely heard of now. Most likely the same will be true of caudal; and when the flush of accidents caused by attempted administration by unfamiliar hands has passed we will see that it has a very real place in obstetrics. Just what that place will be no one can say at present, because no one can foretell the future discoveries in this field. But suffice it to say that every man who does any amount of obstetrics owes it to his patients and to himself to become familiar with the caudal analgesic technic.

CONCLUSIONS

1. The most dangerous complications of caudal analgesia are massive spinal anesthesia, procaine sensitivity, and infection.
2. With proper technic these can be reduced to a minimum.
3. The advantages of caudal are: prolonged relief from the pains of labor as well as delivery, the rarity of precipitate deliveries, the shortened first stage of labor, a smaller number of tears and episiotomies, and the ease of applying forceps when this becomes necessary.
4. Caudal analgesia should not be begun until labor is well established and at least three or four cm. diliatation of the cervix is present.
5. The contraindications of caudal are 1) placenta previa, 2) disproportion between pelvis and fetus, 3) local infection at the site of injection, 4) low lying dura mater, 5) deformity of the sacral canal, 6) history of procaine sensitivity.
6. While caudal analgesia will not become the perfect obstetrical analgesia, it has won for itself a definite place and its use will probably increase until some more nearly perfect form of anesthesia is discovered.

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aspiration of blood indicate danger of injecting intravenously.

DOCTORS IN THE SERVICE

First Lieutenant John G. Egger, formerly in practice in Houston, Miss., is with the Fourth Auxiliary Surgical Group in England. He writes:

"Major Sneed from Pontotoc and Capt. Gish from Memphis are in our outfit. Both are excellent men.

"This is a beautiful old country, but it can't compare with the good old Mississippi Delta, which is the best. The experiences here, however, will be the best a country doctor from Mississippi could have."

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Mississippi State Medical Association

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Manuscripts and material for publication under the Mississippi State Medical Association should be received not later than the twentieth of the month preceding publication. Address material to Lawrence W. Long, M.D., Suite 412 Standard Life Building, Jackson, Mississippi.

The highest honor in the gift of the Mississippi State Medical Association was worthily and well bestowed when Dr. J. K. Avent of Grenada was chosen president-elect at the annual meeting this month.

§

You will read with interest and profit, the oration of Dr. John Darrington, orator, patriot, surgeon, and beloved physician.

§

The past-presidents in the Central Medical Society entertained at breakfast and lunch the past-presidents of the state association. Two past-presidents have passed on since the last meeting, Dr. P. W. Rowland of Oxford, and Dr. Willis Walley of Jackson, to both of whom tributes were paid by Dr. Underwood and Dr. Jones.

Dr. W. W. Crawford who from the standpoint of service has been dean of past-presidents of the Southern Medical Association is now also dean of the past-presidents of the Mississippi State Medical Association.

§

One of the most impressive moments of the state meeting was when the outgoing president, Dr. Le Roy Wilkins, turned over the gavel to the incoming president, Dr. Lampton Crawford. Dr. Wilkins paid a brief tribute to the memory of a devoted country doctor, his father, acknowledging his debt of gratitude, and then a brief tribute of love and appreciation for the guiding hand and the inspiration of his silver haired mother who was present. Then he pointed out briefly the professional fitness, the traits of mind and heart of the incoming president whose scholarship in school was outstanding, and whose devotion to his profession and response to duty as a Christian citizen has set him apart.

As Dr. Wilkins relinquished the gavel, he called to the rostrum Dr. W. W. Crawford, elder brother of Lampton and now dean of past-presidents for the Association, and delivered to him the symbol of official authority to be delivered to his "little brother." It was a brief and touching climax to perhaps the best meeting the Mississippi State Medical Association ever had. Dr. Wilkins brought professional enthusiasm, activated by high ideals of Christian service to the Association. His efforts have left their mark for healthful growth.

§

With a little more than nine hundred active men now practicing in our state, with 54 per cent of these past sixty and many men in the practice fourscore years and more, the enrollment at the state meeting came to between 275 and 300. This is most remarkable. It shows the earnestness and the sincerity of the profession. The meeting was streamlined, cut to two days and nights with many of the unnecessary features of entertainment left off. Never has there been a finer and more brotherly spirit in a meeting of the Mississippi State Association. Patriotic devotion to duty was in evidence. It is certain now that the doctors of Mississippi have the spirit and the loyalty to carry on under difficulties. The leaders of the profession in our state have made it plain that they do not believe medical service should be frozen or even rationed. This meeting also makes it plain that frills are no prerequisite for a successful medical meeting. Mississippi has democratic medical leadership that has been and will yet be a a greater blessing to the world.

§

At the last annual meeting of the State Medical Association I was designated as fraternal delegate to the Tennessee Medical Association. This meeting was held April 11, 12, 13. So I decided to attend. I had never visited Nashville except for a very few hours many years ago. My ancestors were Tennesseans, my great-grandfather having been a member of the convention that framed the first state constitution while my grandfather was a volunteer soldier in the War of 1812. Soon after the close of that war my grandfather went to Alabama and entered land claims in the Big Cove just across the mountain from Huntsville. I had heard my father talk of Huntsville, especially of the big spring that gushes from under the cliff in the heart of the city, and of the Big Cove just over the mountain. My younger daughter volunteered to chaperone me on this trip, so we went by way of Huntsville, where the spring is indeed a marvel. The water is crystal clear and pure, flowing twenty-five million gallons per day. It is the source of water supply for the city and surrounding government enterprises. Perhaps this water supply was the reason that this location was chosen for such extensive projects.

We reached Nashville soon after the Association began its work. The program was excellent, the subjects very pertinent and presented by strong men. When I entered the auditorium, Dr. Leathers was discussing a paper that had just been read. When he had finished he came to me and thereafter I was most graciously cared for. He even arranged for me an invitation to a club dinner given by Drs. Shoulders and O. N. Bryant, the president of the association, in honor of Dr. Paullin and General Morgan. The salt of Tennessee doctors was there. Those of you who have seen Belle Meade Club can appreciate the setting. The dinner was most excellent and the fraternal atmosphere was most intoxicating. When Dr. Paullin had spoken, I was introduced and asked to present your greetings to the association. When I had done so I felt that you had been honored and my duty had been discharged. But at the meeting of the full membership next morning, Dr. Bryant requested me to appear in a return engagement. I am glad that I had the honor to represent the finest group of medical men to be found in any state. I appreciate the courtesy extended me by the Tennessee doctors and especially do I appreciate the great kindness shown me by Dr. Leathers. I wish that many of you might have been privileged to attend this great meeting of a great group of medical men. It was sad to note that there were no young men present, but it is hoped that their absence may not be for long. Let us older men, with renewed determination, strive to keep the home fires burning until the day of their return.

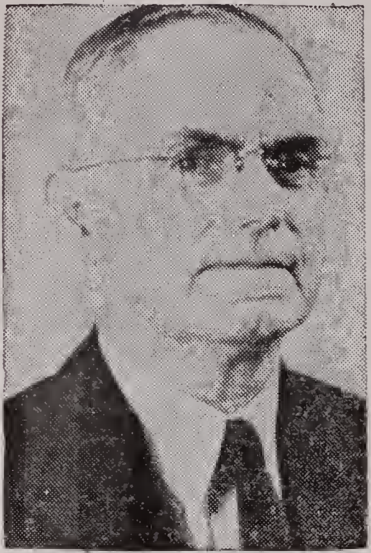
—G. S. B.

§

There seems to be a difference of opinion as to what constitutes state medicine. The heart of state medicine as understood by many is the interference of the personal doctor-patient relation. In the treatment of the wives of soldiers from the rank of sergeant down, this relation is not interfered with it seems, yet some doctors are classing it as state medicine. If it is state medicine, is it a far cry from the type that would come from the Wagner bill now pending in Congress. Fifty dollars for a delivery is about twice what is received by the majority of the doctors in the small town and rural community. This plan encourages women to go to a hospital for delivery, thus at this time insuring better service. This service helps to raise the batting average of obstetrical care in the state. It will have a tendency to retain some doctors in the country perhaps. No doctor is compelled to do this practice.

If all are to have medical service, the state, the nation, church, and philanthropy must join in doing the job. It is good human economy for all the people to have the best medical service available. We should, we must, we will keep medicine free in this country for some time to come provided the medical profession does its full duty and acts with wisdom and courage.

News and Comment



DR. B. LAMPTON CRAWFORD
Tylertown, Miss.
President of the Mississippi State Medical Association

Dr. B. Lampton Crawford, a native of Pike County, received his B. A. Degree from Mississippi College, and his M. D. from Jefferson Medical College. He has been a member of the Tri-County Medical Society since its organization, and was county health officer of Walthall County for twenty years and a member of the Mississippi State Board of Health for eight years.

Dr. Crawford has three sons, all of whom are in the service, and two of whom are doctors. Walter W. Crawford, an aviation surgeon, is in England. Everett H. Crawford, in the Navy, is on a hospital ship out of New Guinea.

Dr. Crawford chose a small town to locate, and there he dedicated all his native ability, professional training and medical soul to serving the people. As the head of a community hospital, he has rendered service in a noble way. He is an able orator which could well be judged by his response to the welcome addresses at the meeting. He has health vision and has done a progressive work in building total health assets. His citizenship manifests itself in his activity in every good cause for his community. The Association is in fine hands with him at the head.

DR. E. M. HOLDER

Dr. E. M. Holder, dean of surgeons of the mid-South, a native of Mississippi, is to be the guest speaker at Corinth at the second quarterly meeting of the Northeast Mississippi Thirteen Counties Medical Society on Tuesday afternoon June 13. In addition to his ohtstanding surgical wisdom, Dr. Holder has a wit that surgical wisdom, Dr. Holder has a wit that always sparkles and he is one of the finest all-'round citizens that the mid-South possesses. It will be good to hear him, both pleasing and profitable.

Dr. H. A. Stokes of Guntown is the new president of the Northeast Mississippi Thirteen Counties Medical Society. He is worthy and well qualified to fill the place efficiently. We congratulate him and the society.

SOUTHERN MEDICAL PRESIDENT DIES

Dr. W. T. Wooton, Hot Springs National Park, Arkansas, who was installed president at the meeting in Cincinnati last November, died at St. Luke's Hospital in St. Louis of an embolism on Tuesday evening, May 2. The funeral was held from the First Presbyterian Church in Hot Springs on the Friday afternoon following.

Campbell-Kenton County Medical Society of Kentucky being the host at the Cincinnati meeting, Dr. James A. Ryan, of Covington was the general chairman, and at the business session Dr. Ryan was elected vice-president. He therefore succeeds to the presidency of the association, his term expiring with the St. Louis meeting in November.

DR. EVANS ADDRESSES CLUB

Tuesday noon at the Robert E. Lee Hotel, a luncheon was given by Dr. W. H. Anderson, editor of *The Mississippi Doctor,* official organ of the Association, in honor of Dr. W. A. Evans of Aberdeen and Biloxi, for the purpose of organizing a Half Century Club from the doctors of the state who have practiced for fifty years. Dr. Evans was formerly health commissioner of Chicago and a former president of the Chicago Medical Association. He wrote a health column for the *Chicago Tribune* and the *Commercial Appeal* for a number of years. He is now a member of a Fifty-Year Club of doctors in Illinois.

Dr. Evans was chief speaker for the occasion. Others were called upon to talk. It was the unanimous opinion of all present that Mississippi should have a club and a meeting was planned for next year at the same time of the Association.

Names of about sixty men who have practiced for fifty years were obtained. The following men who qualified were present: Dr. W. A. Evans, Aberdeen; Dr. G. S. Bryan, Amory; Dr. C. M. Murry, Ripley; Dr. D. J. Williams, Gulfport; Dr. W. J. Anderson, Meridian; Dr. J. Rice Williams, Houston; Dr. B. J. Marshall, Jackson; Dr. W. H. Schudder, Mayersville; Dr. W. L. Little, Wesson; Dr. R. L. Hagaman, Raymond; and Dr. N. J. Milstead, Jackson.

Invited guests present included Dr. Leroy Wilkins, president of the Mississippi State Medical Association, and Dr. Harvey Garrison, immediate past-president of the Southern Medical Association. All the fifty-year boys are still in active practice.

Dr. Anderson was designated sponsor of the club for the coming year until definite organization is completed.

COMMERCIAL EXHIBITORS

The following companies had display space at the recent state meeting in Jackson at the Robert E. Lee Hotel

E. R. Squibb and Sons, New York
Southern Surgical Supply Co., New Orleans
C. V. Mosby Company, St. Louis
Van Pelt and Brown, Richmond
A. S. Aloe Company, St. Louis
Mead-Johnson & Company, Evansville, Ind.
Endo-Products Company, New York
American Surgical Supply Company, Jackson
Lederle Laboratories, New York
E. J. Hart Company, New Orleans
John Weth and Bro., Philadelphia
The Harrower Laboratory, Glendale, Calif.
J. B. Lippincott Company, Philadelphia
E. L. Mercere, Inc., Memphis
General Electric X-Ray Company, Memphis
The Borden Company, New York
Kay Surgical Inc., Memphis
Dick X-Ray Company, Memphis
The White Laboratories, Newark
McKesson and Robbins, Birmingham
J. A. Majors Company, New Orleans.

We want to congratulate the Committee on Exhibits and especially Dr. Dudley Jones for the fine showing made at the recent meeting. Dr. Dudley Jones has the right spirit and the exhibitors appreciate his coöperation.

Let us give our advertisers due consideration. Everything else being equal, let us give them our trade. For doing this our readers will be none the poorer and they will help the journal substantially.

Deaths

DR. WILLIS WALLEY

Funeral services for Dr. Willis Walley, 66, prominent physician and surgeon for 25 years, who died April 9, were held in Jackson.

Dr. Walley had served as county health officer of Perry County, president of the State Medical Association and past-president of the Emory University Alumni Association where he received his medical degree.

He had been a member of the board of trustees of higher learning and served as colonel on Gov. Bilbo's staff during the latter's term of office. At the time of his death he was district surgeon of the Illinois Central Railroad and consultant surgeon on the F. M. and O. Railroad.

Tribute prepared by Dr. Dudley Jones of Jackson and read at the Mississippi State Medical meeting.

The career of Dr. Willis Walley illustrates what can be accomplished in this great country of ours by a poor boy without wealth or social prestige, if only he has the ambition to succeed, and the brains and energy to accomplish his ambition.

Born of poor and humble parentage on a farm down in Green County, Dr. Walley early conceived the ambition of becoming a great surgeon. Although "chill penury repressed his noble rage" for many years, he stuck to his ideal, and by sheer force of will power and energy he forged to the front, until at his death he was indeed recognized as one of the finest surgeons in the state.

In addition to his work as a surgeon, he held many positions of trust and honor, which demonstrated his business ability. Outstanding was his administration of our State Charity Hospital and his own private hospital. In addition to that, he found time to devote to many altruistic enterprises. He served one term as a member of the Board of Trustees of Higher Institutions in Mississippi, and was a director of the Children's Home Society. One of his hobbies was to help poor girls and boys to get an education, and many now holding important positions can testify to the value of his encouragement and assistence.

Over his desk in the Wally Hospital is a little glass frame with these words printed on it: "I shall pass this way but once. Any good that I can do, any kindness that I can show to anyone, let me do it now. Let me not defer or neglect it, for I may not have that opportunity again."

He had his faults, but his good qualities far outweighed his faults. His faults are buried with his body out at Lakewood. His good deeds will live after him in the hearts and minds of those whom he befriended.

Peace to his generous soul.

DR. ROBERT COOPER

Dr. Robert Williams Cooper, 45, of Shreveport, La., who passed suddenly March 27 in Galveston, Texas, while on vacation was buried in Durant, his native home. Funeral services were held at the home of his parents, Mr. and Mrs. R. L. Cooper. Mr. Cooper has been prominently identified with the civic and banking life of Durant for fifty years.

He was graduated with highest honors and attended Millsaps College in Jackson. He received his degree at Ole Miss and got his M.D. degree at the University of Pennsylvania. He interned at Philadelphia and practiced ten years in Alton, Iowa, and five years in Shreveport.

At the time of his death he was radiologist at the Schumpert Hospital in Shreveport and secretary of the Shreveport Clinic. He was a devout Methodist, a Mason, member of the OES and American Legion.

DR. VICTOR L. HENTON

Last rites were held at the Decatur Baptist Church for Dr. Victor L. Henton, 52, who died in a Meridian hospital March 19.

Dr. Henton practiced his profession in Louisiana in early manhood and later in Little Rock and Decatur in Newton County.

About three years ago he became ill with an incurable disease, and although throat operation deprived him of his speech, he continued to practice for a number of months at Decatur before he was forced to give up his work.

Surviving Dr. Henton are his wife, Mrs. Pessie Henton, of Mobile, Ala., two daughters, Mrs. Jody Johnston, of Detroit, Mich., and Decatur, and Miss Katherine Henton, of Mobile, Ala.; his mother, Mrs. S. B. Henton, of Picayune; two sisters, Mrs. Mamie Powell, of Picayune, and Mrs. Olive Clark, of Welch, La.; three brothers, S. B. Henton, Jr., of Foley, Fla.; George and Robin Henton, of Mobile, Ala.; and three grandchildren.

DR. J. B. PATRICK

Dr. Joseph Baxter Patrick, 65, for 30 years a practicing physician at Learned, Miss., and recently appointed head of the clinic of the J. A. Jones Construction Company at Brunswick, Ga., died suddenly April 5.

A native of Morton, Miss., Dr. Patrick studied at Tulane University and received his M.D. from the University of Kentucky.

Survivors include the widow, two sons, Max Patrick, a member of the Associated Press Staff in New Orleans, and Joseph Burton Patrick, U. S. Army; a daughter, Mrs. Wilbur Osborn of Learned, and several brothers and sisters.

DR. F. L. M'GAHEY

Services were held April 30 for Dr. F. L. McGahey, 50, who died in a Memphis hospital.

Burial was in Spring Hill Cemetery in Webster County.

Dr. McGahey was a member of the Mississippi Medical Association, a Mason, and health officer for Calhoun and Grenada counties.

He leaves his wife, Mrs. Felton McGahey, Grenada; a daughter, Mary Elizabeth McGahey, student at Columbus, Miss.; three brothers, Dr. T. P. McGahey, Birmingham; Walter McGahey, Jackson, Miss. and O. B. McGahey, Calhoun City.

Dr. McGahey received his M. D. degree from the University of Tennessee in 1916.

He served as president of the Northeast Thirteen Counties Medical Society in 1932.

DR. E. R. M'LEAN

Dr. Ephraim Rankin McLean, beloved physician and surgeon of Cleveland, died April 22 after a lengthy illness.

Dr. McLean was senior member in the Cleveland Clinic and ex-sheriff of Bolivar County. He was long an outstanding figure in Cleveland's civic, social and political life.

Dr. McLean received his M. D. degree from Memphis Hospital Medical College in 1902.

He leaves his widow, the former Miss Ida Lee Graham; a son, Capt. E. R. McLean, Jr., USN, commander of a destroyer in the Southwest Pacific; two daughters, Mrs. Louise McLean Cutler, Long Beach, Calif., wife of Capt. S. Y. Cutler, USN, on active duty in the Pacific war zone, and Mrs. Virginia McLean Beall, Cleveland, wife of Lt. L. L. Beall, USMC, also in the Pacific war zone; eight grandchildren; a brother, J. L. McLean of Cleveland; two sisters, Mrs. I. M. McLean of Memphis, Tenn., and Mrs. Daisy M. Holiday of New York City.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Pathology and Clinical Pathology—John C. Henthorne, Vicksburg.

Pediatrics—Harvey F. Garrison, Jackson.

Public Health—Felix J. Underwood, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

Discussion and comments are invited.

PEDIATRICS

COMPARATIVE TOXICITIES OF SULFATHIAZOLE AND SULFADIAZINE IN CHILDREN. James O. Lowrie, M. D. and Mason H. Abramson, M. D. San Francisco, Calif. .

While there is some evidence that sulfadiazine is less toxic than sulfathiazole for adults, little if any proof is to be found in the literature that the same is true of infants and children. Although a number of reports on the toxic reaction in children to one or another of the sulfonamide drugs is available, it is difficult to determine from them the relative frequency and severity of reactions and, therefore, to compare one drug with another. For these reasons these authors have collected and analyzed the data in two approximately equal groups of infants and children ,one treated with sulfadiazine and one with sulfathiazole, observed more or less concurrently in the children's ward of the Stanford University Hospital. They summarize these studies as follows:

1. The toxic reactions observed in a group of fifty-four children treated with sulfadiazine were compared with those in a group of fifty-three children treated with sulfathiazole during approximately the same period.

2. In the first group granulocytopenia occurred in 44.3 per cent of cases; in the second, 37.8 per cent. There were no cases of agranulocytosis, even when the drug was continued after granulocytopenia appeared.

3. Simultaneous administration of alkali was employed in the majority of instances. The only case of gross hematuria occurred in a child who had not received alkali. No instances of anuria were observed. The use of alkali appears greatly to lessen the danger of complications in the urinary system.

4. Drug rashes occurred four timess, all in children receiving sulfathiazole. Three of these resembled erythema nodosum.

5. The administration of ascorbic acid in massive dosage appeared to have no detoxifying effect for the two sulfonamide studies.

6. Their observations on children fail to reveal any striking difference in toxicity between sulfadiazine and sufathiazole with the exception of the greater incidence of rashes with the latter.

COMMENT

This paper demonstrates the importance as well as the value of both sulfadiazine and sulfathiazole. We feel that it was worth while to present this to the medical profession of the state on account of the importance of both drugs, not only to the treatment of diseases of children but to adults as well.

SURGERY

AN EXPERIMENT IN THE EARLY DIAGNOSIS OF GASTRIC CARCINOMA; Fordyce B. St. John, M. D., Paul C. Swenson, M.D., and Harold D. Harvey, M.D. "The Annals of Surgery," February 1944, Volume 119, Number 2, pages 225-231.

A total of 1204 individuals with carcinoma of the stomach, registered at the Presbyterian Hospital during the years 1908 to 1942 inclusive. Of these 231 underwent resection of the stomach and 64 failed to survive leaving a total of 167 who were discharged following radical surgery done usually in the hope of effecting a care.

Of the individuals seen in this particular hospital during thirty-five consecutive years less than fifteen per cent left the hospital with any possibility that the disease had been arrested.

The authors discuss the means by which this deplorable record (which is in no sense unique) might have been improved. It is their feeling that a more alert attitude on the part of internists, improved technic on the part of radiologists and gastroscopists in demonstrating the lesions, willingness on the part of surgeons to operate when careful study yields suspicion of carcinoma being present, are the main essentials if patients are to be seen at an earlier date. By following the above suggestions the authors report that their mortality rate was lowered from 33.8 per cent for an early period to a rate of 4.7 per cent for the year 1942. Their resectibility rate has been increased from 14.8 for the earlier period to 36.5 for the past five years. Prior to 1938 fewer than one patient in ten seen in that particular hospital with gastric carcinoma left the hospital with any possibility that the disease had been arrested. During the past five years the ratio approached 3 in 10. It is significant that of the 97 patients who survived resection prior to April 1938, 25 or 25.8 per cent lived five or more years without evidence of recurrence, definite evidence that radical resection for carcinoma of the stomach, when it can be done under proper circumstances offers hope of cure. Decidedly of significance is the statement of the authors that of the 25 survivors only 4 at surgery were shown to have metastases present.

The authors studied a large group of individuals seen at a date when surgical extirpation was not possible and they have attempted to establish a diagnosis of carcinoma of the stomach before clinical evidence of its presence exists. To that end they have made mass roentgenologic studies of men and women not suspected of having gastric lesions. All of the subjects were more than fifty years of age, and none had digestive symptoms of appreciable significance. Two thousand four hundred and thirty two persons were examined, of whom four hundred and ninety-one were re-examined within one year making a total of 2923 examinations. Three of these individuals were found to have malignant gastric tumors, all were subject to surgery, the diagnosis was confirmed in each instance and resection was done. In none were metastases demonstrable. All patients survived surgery and presumably are cured.

(Editor's Note. If it were humanly possibly and economically feasible to examine roentgenologically the stomachs of all individuals forty or fifty years of age once yearly, unquestionably as the authors state, in the aggregate, many early cases of carcinoma extremely low, the resectibility rate would be 100% and the hope of cure would be quite definite.)

The authors state that whether the method is a practical one for reducing the large number of incurable gastric carcinomas seen in all hospitals cannot yet definitely be stated but they are quite correct in remarking that if no other benefit has accrued from their studies it has at least presented the opportunity to learn more of the characteristics of early gastric carcinoma, for their experience, as has been the experience of others unfortunately, has been in the past chiefly with the late manifestions of this disease.

State Board of Health

Felix J. Underwood, M. D.

NUTRITIONAL NEEDS DURING PREGNANCY

Mary Stansel, Nutritionist
Mississippi State Board of Health

Good nutrition does not necessarily mean good health, but good health is not possible without good nutrition. This problem of food and the utilization of food is of universal concern—it touches every person every day.

Good nutrition is especially important during pregnancy. The work of Burke, Beal, Kirkwood and Stuart;[1] Ebbs, Tinsdall and Scott;[2] Toverud,[3] and others has shown that both maternal and infant well-being is affected by the degree of adequacy of the maternal diet.

The foetus has long been considered a parasite, getting the nutrients it needs at the expense of the mother if necessary. Recent studies indicate that the ability of the foetus to act as a parasite is limited. Burke and coworkers[1] found better physical development in the babies whose mothers had excellent diets during pregnancy. These authors also found that "if the diet of the mother during pregnancy is poor to very poor, she will in all probability have a poor infant from the standpoint of physical condition."

A poor nutritive state of the mother may be an important factor in premature birth. Both Toverud[3] and Ebbs, Tisdall and Scott[2] found a higher percentage of premature births among those mothers lacking a well adjusted dietary. Good nutrition is also important for the mother. Ebbs, Tisdall and Scott[2] and others found more complications of pregnancy among the "poor" and "very poor" food intake groups.

Nutritional deficiencies, either singly or total, in the reproductive period may cause partial or total failure in the outcome of pregnancy. As more is learned about the nutrients (vitamins are not the whole story!), additional deficiency conditions may be recognized. Ebbs, Tisdall and Scott[2] concluded that "while it is recognized that there are other important factors in the successful outcome of pregnancy, this study suggests that the nutrition of the mother during the prenatal period influences to a considerable degree the whole course of pregnancy and in addition directly affects the health of the child during the first six months of life."

Good nutrition during pregnancy does not mean "eating for two" as far as the amount of food is concerned. Since lessened activity may offset the increase in basal metabolic rate which occurs during the latter part of pregnancy, the caloric need usually remains about the same or is slightly more than normal. Most observers suggest that the total weight gain during pregnancy, for the woman of normal weight, should not exceed 16-25 pounds. There is little evidence for or against this restriction as far as the course of pregnancy is concerned. Too, the available data indicates that except in cases of extreme deprivation the energy intake has no effect on the birth weight of the infant. Nevertheless, obesity is not conducive to good health, and so if for no other reason undue weight gain should be avoided because it lessens the likelihood of a return to normal weight after pregnancy. Adequacy of the maternal diet depends primarily on an increased intake of protein, vitamins and minerals.

The daily allowances for pregnancy, as recommended by the Committee on Food and Nutrition of the National Research Council[5] are: 2500 calories, 85 grams protein, 1.5 grams calcium, 15 milligrams iron, 6000 International Units vitamin A, 1.8 milligrams thiamine, 2.5 milligrams riboflavin, 19 milligrams niacin, 100 milligrams ascorbic acid and 400-800 units of vitamin D. These allowances represent increases over the normal allowance for the moderately active woman of from 14% in riboflavin to an 88% increase in the calcium need.

The increased need for protein, calcium, iron and other minerals and vitamins during pregnancy can be easily met by three meals a day which include the following foods:

Milk — one quart.

Green and yellow vegetables — at least one, preferably two, servings

Oranges, tomatoes, grapefruit, raw cabbage, raw turnips or melons — two servings

Other vegetable and fruits

Lean meats, fish, poultry, dried beans or peas — at least one large serving

Eggs — one or more

Whole grain or enriched flour, bread, cereal

Cod liver oil or other source of vitamin D

The daily quart of milk may be sweet milk, buttermilk, evaporated or dried milk. Milk is especially important for its good quality protein, calcium and riboflavin (vitamin B_2). Milk, calcium, bones and teeth are so closely linked together in the general thinking that the values of milk other than calcium are often overlooked. The diet without milk will probably be very deficient in riboflavin as well as in calcium, and short also in other vitamins and minerals.

Skim milk or buttermilk contains all of the nutrients found in whole milk except for the fat and vitamin A. The vitamin A can be easily secured through a greater intake of green and yellow vegetables. In Mississippi, availability as well as the often found lack of refrigeration makes buttermilk especially important.

The best green vegetables are the dark green leaves such as turnip greens, mustard greens, kale and collards. These greens are x-cellent sources of vitamin A, riboflavin, calcium and iron. Greater use plus better cooking methods of green and yellow vegetables, easily produced in Mississippi, would help tremendously in improving the nutritional status.

Oranges, tomatoes and their "kin" foods

provide ascorbic acid (vitamin C). Too many expectant mothers in Mississippi fail to include two servings daily from this group in the day's meals.

Other fruits and vegetables, including Irish potatoes, provide less amounts of the vitamins and minerals. Certainly, during pregnancy when it is important that all foods provide vitamins and minerals as well as calories, Irish potatoes could well replace some of the refined cereals used in the average diet.

Lean meat, fish, poultry, dried beans and peas, and eggs, are especially important for both protein and the B vitamins. The importance of an optimal protein intake during pregnancy for foetal development and maternal storage is now generally recognized. An adequate protein intake is necessary for the prevention of anemia (Bethell,[5] Sturgis[6]); there seems to be some correlation between nitrogen retention during pregnancy and success in lactation (Hummel and co-workers,[7] Coons and Blunt[8]); an adequate protein intake is also important in the prevention of nutritional edema which may be identical with some of the so-called toxemias of pregnancy (Strauss[9]) Milk, eggs and lean meat are the best sources of protein of excellent biologic value.

Whole grain and enriched cereals include enriched white flour, whole wheat flour, home ground cornmeal, oatmeal and brown rice. The fact that all breads and cereals eaten during pregnancy should be whole grain or enriched cannot be over emphasized.

Vitamin D is necessary for the efficient utilization of calcium and phosphorus.

The vegetables, fruits and whole grain cereals suggested in the food guide for pregnancy are helpful in the prevention of constipation. Mineral oil, since it takes up carotene and the other fat soluble vitamins and prevents their utilization in the body, should not be used as a "home remedy."

There is nothing complicated about an optimal food intake during pregnancy. But nutrition education during pregnancy, as always, must be exact. The term "eat a good diet" would probably not mean a quart of milk per day, green and yellow vegetables, tomatoes, lean meat, eggs and whole grain cereals for most people. The recommended diet for pregnancy fits easily into accepted meal patterns. Every food necessary for good nutrition can be produced in Mississippi. Effective nutrition education during pregnancy, resulting in better food habits for the individual mother, is an important part of any program which has as its goal better health. The physician who takes time to instruct the expectant mother regarding adequate nutrition, helping her to understand its fundamentals and importance, is making a useful contribution to the health and welfare of both mother and child.

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NATIONAL RECOGNITION FOR FIVE MISSISSIPPI HEALTH DEPARTMENTS

The fifteenth (1943) annual Health Honor Roll awards Program of the Chamber of Commerce of the United States and the American Public Health Association carries the names of five Mississippi counties in recognition of their progress in community health protection. These counties are Coahoma, Jones, Lauderdale, Leflore, and Washington.

The State Board of Health is justly proud of the distinction which these counties have earned. It was gratifying to note that of the

53 awards made throughout the nation, Mississippi counties received five of them. This is the best all-time record yet in number of counties recognized, although the state has for the past several years received similar awards in recognition of the work of certain full-time health departments.

Awards for this program for community health advancement were made by a committee of leading national authorities who had spent weeks grading the reports of the participating communities throughout the United States. The committee's decisions were based on attainments of high standards of excellence in protecting public health in war-time. Emphasis was placed on specific measures to control communicable diseases such as venereal diseases, tuberculosis and children's diseases. Sanitation, including protection of milk and food supplies; proper safeguards in maternity care, child health and welfare; effective health education; adequate industrial health programs and other health services were also given primary consideration in making the awards.

Mr. Eric A. Johnson, president of the United States Chamber of Commerce, in commending the winning communities, as well as all those which participated in the program said:

"This achievement deserves the highest praise and support and reflects great credit on the health officers, officials, voluntary health organizations, chambers of commerce and other business and civic groups in these localities for giving attention to the war-time health of war workers and citizens. The stresses of this war, the shortage of manpower and the large percentage of those rejected by Selective Service have made us realize as never before that illness and disability are a serious drain on America's productive capacity. We know now that our annual loss on account of illness and disability is at least 10 billion dollars—a tax which everybody pays and nobody gets. It is our hope that the records of the 1943 National Health Honor Roll cities and communities will be an incentive and guide to all others to build up their health protection services. I hold this an essential home-front contribution to speed the winning of the war and to meet the great problems of post-war readjustment."

The Committee's report also included a joint statement by two members, Dr. George P. Darling of the Division of Medical Sciences of the National Research Council and former administrative officer of the W. K. Kellogg Foundation, and Dr. John A. Ferrell of the Rockefeller Foundation. Dr. Darling and Dr. Ferrell said that because many of the participating communities are war production centers, they have found it necessary to make this inventory of health conditions in relation to both wartime health problems and post-war planning for industrial and community welfare.

Pronouncing the Health Evaluation Schedule used in this program "one of the best tools for post-war planning," these health authorities said that its use would give every community exact knowledge of where it stands in health and hospital facilities in connection with adjusting itself to post-war conditions. Maintaining that cities which make this inventory are steps ahead of non-participating communities in post-war planning, they asserted that "communities which arm themselves with a definite plan based on the Honor Roll Health Evaluation Schedule will obviously be in the best position to obtain properly trained technicians and additional facilities after the war."

* * * * *

MISCELLANEOUS NEWS NOTES

Construction on a new health center building for the town of Centreville will begin in the near future, according to Mayor Omer Carroll of Centreville. The building will cost approximately $15,568 and will be constructed on the lot directly at the rear of the Episcopal Church. This site was furnished by the city, who purchased the lot and donated it for the purpose.

* * * * *

Dr. Felix J. Underwood was invited to deliver the annual oration of the Louisiana State Medical Society at their meeting on April 25. His subject was **New Horizons in Preventive Medicine**.

* * * * *

Mrs. Josephine D. Abbott, Educational Consultant, The American Social Hygiene Association, New York, New York, will visit the State Board of Health for two weeks, beginning May 22.

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The State Board of Health will meet on May 29-31 to hold examinations for medical students and to attend to business to come before the Board. The first two days, May 29 and 30, examinations will be given medical students at the Robert E. Lee Hotel convention hall beginning at eight o'clock each morning.

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PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	Mch. 1944	*Mch 1943*	*Mch. 5 Yr. Avg.*
Acute Poliomyelitis	1	4	1.8
Bacillary dysentery	370	538	425.8
Dengue	0	0	.2
Diptheria	26	16	25.8
Influenza	7034	7344	7926.4
Measles	3780	2514	3475.0
Meningococcus meningitis	38	144	41.6
Other forms meningitis	18	3	7.0
Pellagra	186	193	242.8
Pneumonia	2067	2307	2134.3
Pulmonary tuberculosis	163	123	134.8
Scarlet fever	37	92	50.2
Smallpox	4	2	2.8
Tularemia	5	8	5.8
Typhoid fever	5	3	5.6
Typhus fever	7	6	4.0
Undulant fever	4	5	4.0
Whooping cough	1277	1037	1067.8

TULAREMIA STEADILY INCREASING

This is quite a serious disease which has increased in incidence since 1940 as shown below:

Year	Cases
1940	7
1941	40
1942	51
1943	62

The reservoir of infection is primarily the rabbit. Infection is by two methods, namely: by direct contact with the infected rabbit, and by biting insects such as ticks and flies which bite the infected animal and then man. Infection is usually caused by handling the infected animal.

Physicians should be on the alert for tularemia when diagnosing illnesses which look like typhoid fever, malaria, typhus fever, Rocky Mountain spotted fever or similar acute diseases. Agglutination usually becomes positive in 8 to 12 days after onset of illness.

TYPHOID FEVER

Typhoid fever showed an increase in 1943 over 1942. In 1942 there were 149 cases and in 1943 179 cases. Also in January, February, and March 1944 there were 20 cases compared to 8 cases in the same period for 1943.

These facts indicate that this disease may have reversed its directions and started what may be an annual increase for the next two or three years. The excellent record of reduction of this disease in the past 20 years should not cause complacency. This remains a serious potential hazard which deserves close attention and prevention. Physicians should continue to urge inoculation in their private practice and should suspect all continued fever cases as being typhoid fever until proved otherwise. An outbreak of this disease because of negligence in diagnosis or in providing protective measures would be inexcusable and tragic.

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Woman's Auxiliary

TO THE MISSISSIPPI STATE MEDICAL ASS'N

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GREETING FROM DR. WILKINS*

A year ago I stood here with you as president-elect of the Mississippi State Medical Association. Today, I am here just a few hours before joining the list of ex-presidents.

That year has been filled with many things for all of us. Especially has it been full for you wives of doctors and your husbands. Never has there been so great a demand made on the medical profession and never so few to answer.

Never have we so needed your help, encouragement, inspiration, and, in our moments of relaxation, if any, your love and companionship. I want to thank you from the bottom of my heart, and for the Mississippi State Medical Association, for the help you have given and the work you have done during the past year.

When as I sat down to try to put on paper what I feel and would like to say to you, there came to my mind the words of one King Lemuel, as recorded in Proverbs 31. Paraphrasing, because I wanted them a little more personal, they should be somewhat as follows:

Do you know a doctor's wife? Her price is far above rubies. (Yet, each of you has sold out for a band of mere gold.)

The heart of her husband doth he safely trust in her hands, and she will do him good and not evil all the days of her life.

She seeketh wool and flax and worketh willingly with her hands. (Knitting for the soldiers, Red Cross, people in occupied countries.)

She is like the merchants' ships: she getteth food from many places, and stretcheth ration points beyond understanding.

She riseth up before it is yet light, and prepareth (in these days of few servants) food for the doctor that he may get off early on his calls. And later for her children that they may be on time for school.

She considereth a field, (or a lot, or a house) and she buyeth it: with the fruit of her hands she planteth it to flowers, shrubs and a victory garden.

The next verse deals with that which I am told is quite hard to acquire nowadays on account of the rubber shortage, and the strength of your arms, which we do so love to feel about our necks.

Her candle goeth not out by night. It is ever ready to welcome the weary one to his bed and rest, 'til the next call cometh. She layeth her hands to the needle, and often her hands hold the rake and the lawnmower.

She stretcheth out her hand to the poor; yea, she reacheth forth her hands to the needy. (Pity the community without a doctor's wife and her goodness.)

She is not afraid of the snow, and cold, for her household are clothed with scarlet. (Oh! for those good old days of red flannels!)

Next verse is history for there is little tapestry or silk with which to make herself coverings. She must be satisfied with, no not nylon, but cotton and rayon with its slippiness, but she can get a cute little hat.

But, strength and honor are now her clothing and she shall rejoice in time to come.

Her husband is known in the gates, and all over the town, and is a surprise to everyone when he accompaneth her to church.

She openeth her mouth, seldomly regarding her husband's patients, but with wisdom; and her tongue is the law of kindness, never backbiting or gossiping.

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*Given before the annual meeting of the Auxiliary to the Mississippi State Medical Association, May 10 1944, Jackson, Miss.

She looketh well to the ways of her household, (and children) and eateth not the bread of idleness.

Her children arise up and call her blessed; her husband also, and he praiseth her, though all too seldom.

Many wives have done wondrously and are fine, but thou excellest them all.

Favor is deceitful, and beauty is vain (a rightful vanity for the doctor's wife); but a woman that marrieth a doctor, she should be praised. And, who more than a doctor praiseth and loveth his wife?

MRS STANLEY PRESIDENT-ELECT

Mrs. Lawrence J. Clark of Vicksburg was elevated to the presidency of the state organization at the close of the session, and Mrs. Stanley Hill of Corinth came in as president-elect. Mrs. Clark has already demonstrated her enthusiasm and desire to hold up the standard of the work done the past few years, and with Mrs. Hill as a first lieutenant, the Auxiliary is headed for greater achievement.

Mrs. Hill has been very active in the local, district and state auxiliaries since she came to Mississippi as a bride and began to share her husband's organized medicine viewpoint. She is a native of Iowa, attractive, capable and adaptable. In the state organization she has been Hygeia chairman twice, assistant publicity chairman twice, and has served as president of the Alcorn Unit, and the Northeast Mississippi Thirteen Counties Auxiliary, after serving both auxilaries as secretary-treasurer. Mrs. Hill hopes this year, as organization chairman, to encourage the reorganization of groups which have disbanded, and to awaken interest in parts of the state where the doctors' wives have yet not maintained an active organization.

Mrs. Lawrence Clark of Vicksburg assumed office as president of the Woman's Auxiliary to the Mississippi State Medical Association at the luncheon which was the final feature of the twenty-first annual meeting of the group.

Mrs. H. C. Ricks of Jackson presided over the general session.

Greetings were brought by Dr. E. LeRoy Wilkins, president, and Dr. B. Lampton Crawford, president-elect of the Mississippi State Medical Association, and by Dr. Felix J. Underwood, president of the American Public Health Association.

The president's address was delivered by Mrs. H. C. Ricks of Jackson.

In addition to the election of officers, the Auxiliary also passed a resolution opposing the Wagner-Murray-Dingell Bill now before Congress to socialize medicine.

Mrs. Rogers Herbert of Nashville, Tenn., regional commander of the Women's Field Army for Cancer Control, past-president of both American and Tennessee medical auxiliaries and now co-chairman of the Hygeia committee of the Women's Auxiliary to the American Medical Association, was the featured speaker of the luncheon. Using as the theme of her talk, Health Education, which she termed the real objective of the Women's Auxiliary, Mrs. Herbert said that the work already accomplished in the 21 years of its existence has shown how far it can go as an organized group, and the future holds even a greater challenge for the members, as aids to the noblest profession known.

Hrs. H. C. Ricks presided at the luncheon, and Mrs. Harvey Garrison returned thanks. The speakers' table was beautifully decorated with an oblong arrangement of cornflowers, pink and blue larkspur, roses, daises and fern. Along the edges were beautiful corsages, one for each of the past-presidents, which were gifts from Mrs. John B. Howell of Canton. Arrangements of flowers, similar to those on the speakers' table, were used on the other tables.

Officers elected are: Mrs. Stanley Hill, Corinth, president-elect, who will succeed Mrs. Clark next year; Mrs. H. C. Ricks, Jackson, first vice-president Mrs. Henry Boswell, Sanatorium, second vice-president; Mrs. W. H. Anderson, Booneville, third vice-president; Mrs. Ben Walker, Jackson, fourth vice-president; Mrs. G. H. Owen, Jackson, recording secretary; Mrs. J. D. Simmons, Cleveland, treasurer; Mrs. Harvey Garrison, Jackson, historian; Mrs. W. C. Poole, Cary, parliamentarian; Mrs. Augustus Street, Vicksburg, legislation chairman; Mrs. C. C. Hightower, Hattiesburg, memorial; Mrs. W. W. Crawford, Hattiesburg, Doctor's Day; Mrs. Hugh Johnston, Vicksburg, war participation.

District councilors named are: Mrs. H. L. Cockerham, Gunnison, First District; Mrs. B.

S. Guyton, Oxford, Second District; Mrs. Thomas M. Gore, Houston, Third District; Mrs. J. K. Avent, Grenada, Fourth District; Mrs. A. L. Gray, Jackson, Fifth District; Mrs. R. L. Simmons, Meridian, Sixth District; Mrs. J. P. Culpepper, Hattiesburg, Seventh District; Mrs. A. B. Harvey, Tylertown, Eighth District; Mrs. S. B. McIlwaine, Pascagoula, Ninth District.

CENTRAL MEDICAL

"Doctor's Day," given annually for the doctors by the Woman's Auxiliary to the Central Medical society, was held recently in the form of an al fresco dinner at the lovely home of Dr. and Mrs. Adna Wilde on Raymond Boulevard.

Mrs. Lauch Hughes and the following hostesses were responsible for the delicious meal: Mrs. Adna Wilde, Mrs. George Adkins, Mrs. J. A. Milne, Mrs. A. E. Gordin, Mrs. R. C. O'Ferrall and Mrs. A. L. Gray. More than eighty doctors and their wives attended.

Tables were set in the sunken garden where hundreds of roses of every shade provided a background and gorgeous vista for the guests and delighted everyone with the beauty and fragrance.

AUXILIARY OF THE HARRISON-STONE-HANCOCK COUNTIES MEDICAL SOCIETY

The Auxiliary of the Harrison-Stone-Hancock Counties Medical Society has closed an eventful year of harmonious activity under the leadership of Mrs. Joe P. Evans, president, who is now succeeded by Mrs. James Lopez for the coming year, with Mrs. E. C. Parker as president-elect.

The main objective of the auxiliary for the past year has been to arouse interest in the Wagner-Murray-Dingell Bill and to inform the public that its passage would mean, not only to the medical profession, but to the people. At its December meeting the auxiliary had as guests the heads of twelve Gulfport women's organizations to hear Dr. Cummings McCall speak on the significance of this bill which seeks to regiment the members of the medical profession.

Resolutions in opposition to the bill were passed by the auxiliary, and like resolutions were forwarded to our senators and representatives in Congress by the following organizations: The Woman's Club of Gulfport, 144 members; The Junior Woman's Club, 50 members; Culture Club, 21 members; Gulf Coast Chapter D. A. R., 61 members, Beauvoir chapter U. D. C. 53 members; the Auxiliary of the Joe Graham Post American Legion; The Altrusa Club, and the Beach Garden Club; other organizations are scheduled for similar action in the near future.

A particular interest of the Coast Auxiliary is the Nurses' Home of the Gulfport General Hospital, the formal opening of which, sponsored in October by the auxiliary, was an outstanding event with many guests from the Coast and elsewhere in attendance.

The auxiliary celebrated its twentieth anniversary in November at the home of its organizer, Mrs. Daniel J. Williams, with a large attendance which included five charter members, one of whom, Dr. Margaret Caraway, was made an honorary member of the auxiliary for life.

The annual dinner given by the auxiliary in honor of the doctors of the Coast Society was held in April at the Gulfport Country Club. A delightful menu featuring barbecued chicken was served. An interesting part of the program was furnished by Dr. Charles McWilliams who showed moving pictures of the Coast doctors and their families which he had taken informally during the past few years.

In attendance were the following Auxiliary members and doctors with their guests: Dr. and Mrs. D. J. Williams; Drs. Fred and Emma Gay with guest, Mrs. S. L. Shaw; Dr. and Mrs. J. O. Lopez; Dr. and Mrs. L. D. Abernathy; Dr. and Mrs. Charles McWilliams; Dr. and Mrs. Joe P. Evans and guests, Mrs. F. B. Hewes and Miss Bliss Roney; Dr. and Mrs. James Van Pelt; Dr. and Mrs. Ben Henninger; Dr. and Mrs. A. C. Hewes; Dr. and Mrs. Cummings McCall and guests, Colonel and Mrs. James G. Metts; Dr. and Mrs. E. C. Parker and their guests, Mrs. Agnes Burt Caraway Kemp, Mrs. Eula Earls, Miss Ruth Jones, Capt. Russell B. Carson, Mr. and Mrs. William Keyser, Dr. and Mrs. R. E. L. Stuart, and Ed Parker, Jr.

In attendance from the Veterans Facility were: Dr. and Mrs. F. L. Wright; Dr. and Mrs. G. I. Sheffield; Dr. and Mrs. H. Davidian; and Dr. and Mrs. William Winnick.

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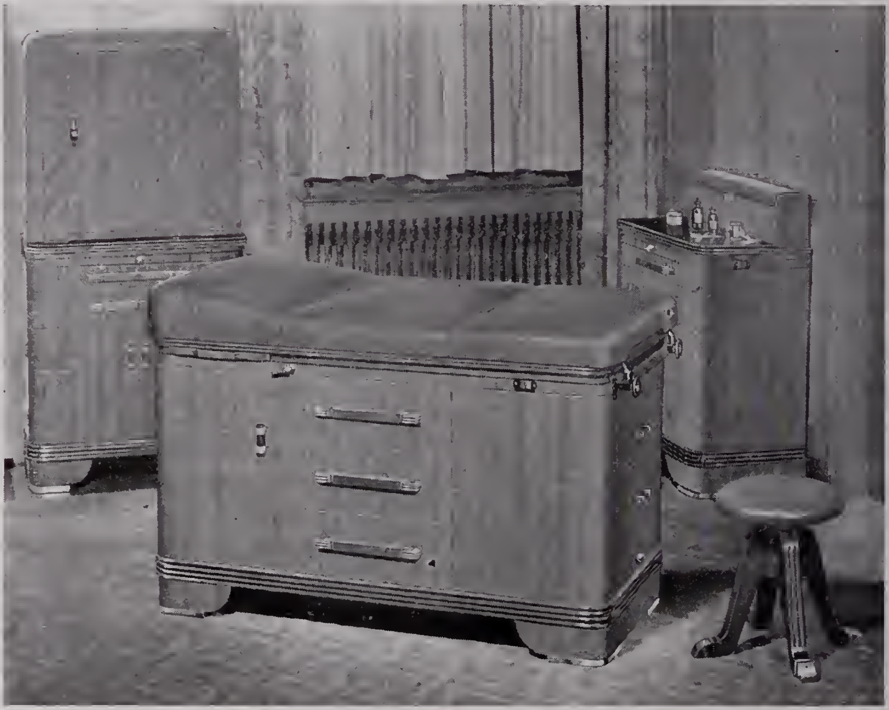

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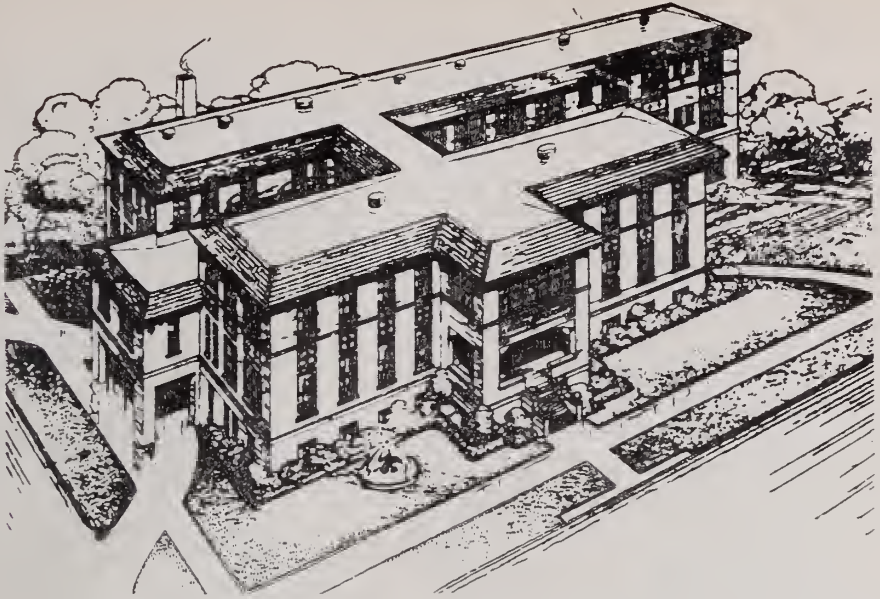

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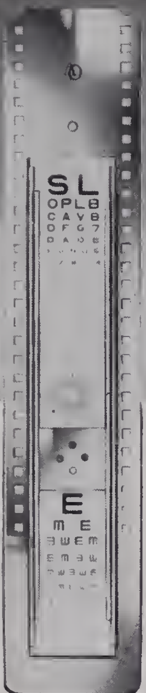

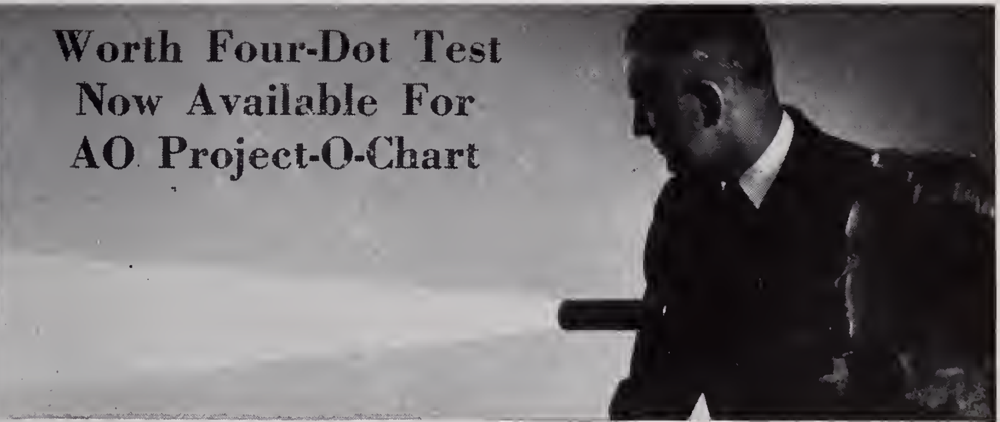

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